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A Comparative Analysis of Student Service Member/Veteran and Civilian Student Drinking Motives

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Abstract

The present study examined the nature and correlates of 252 student service members'/military veteran and civilian college students' drinking motivations. Data was collected via electronic survey. Results revealed no differences between military affiliated and civilian students in mean levels of alcohol motivations. However, the links between alcohol motives and problem drinking differed for these two groups of students. Specifically, coping motivations were linked to problem drinking for student service members/veterans but not civilian students.

Keywords

Alcohol; Alcohol Motives; Drinking; Veterans; Student Service Members

Reports of the health outcomes among military personnel serving in Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) paint an alarming picture. Compared to their health status before-deployment, US service members deployed in support of the wars in Iraq and Afghanistan exhibit increased risk of any-cause hospitalization after-deployment (Smith, Leardmann, Smith, Jacobson, & Ryan, 2009). Deployment, and particularly associated experiences such as combat exposure, represent unique stressors leading to newly reported (i.e., new-onset) hypertension (Granado et al., 2009), post-traumatic stress disorder (Smith et al., 2008b), respiratory illness (B. Smith et al., 2009), hazardous drinking and alcohol-related problems (Jacobson et al., 2008). Moreover, these experiences lead to maladaptive coping measures such as cigarette smoking (Smith et al., 2008a) and excessive alcohol use (Ames & Cunradi, 2004/2005).

Alcohol Use among Military Veterans

Soldiers returning from deployment frequently report alcohol misuse as a particularly troubling, personal concern (Milliken, Auchterlonie, & Hoge, 2007). Such concerns are not surprising considering excessive alcohol consumption among military personnel has been (Bray, Mardsen & Peterson, 1991; Burt, 1982) and remains an important health concern (Shahre, Brewer, Fonseca, & Naimi, 2009). Current rates of heavy alcohol use among military personnel do not significantly differ from those reported in 1980 (Bray & Hourani, 2007). Moreover, approximately one in six military personnel is likely to be a heavy drinker (Bray & Hourani, 2007). Compared to civilians of the same age, young military personnel (18- to 25-years of age) exhibit a greater prevalence of heavy alcohol consumption (Ames & Cunradi, 2004/2005).

Jacobson and colleagues (2008) contend one explanation for the increased risk of new-onset drinking among deployed military personnel includes "increased stress among individuals

and their families having to transition between military and civilian occupational settings” (p. 669). Such assertions highlight important considerations for college health practitioners and student affair administrators considering the “new” G.I. Bill (i.e., Post-9/11 Veterans Education Assistance Act of 2008) has expanded the benefits offered to military veterans, making college more accessible for the more than two million men and women who served in the Iraq and Afghanistan wars (Radford, 2009). Not since World War II have so many veterans transitioned from military life to student life (Cook & Kim, 2009). Even though college campuses stand to be inundated with student service members/veterans, there currently remains a dearth of scholarly investigations specifically examining their unique health needs (American Council on Education, 2008; Boynton Health Service, 2008).

Among the few studies that have specifically examined the health issues unique to student service members/veterans currently enrolled in higher education, researchers have recently observed significant differences between veteran and civilian students in regards to past 12-month and current alcohol use (Boynton Health Service, 2008). That is, veterans attending college exhibited considerably higher rates of alcohol use within the past 12 months and past 30 days (Boynton Health Service, 2008). Compared to civilian students, binge drinking among student service members/veterans attending college was differentially associated to indicators of problem drinking and psycho-somatic symptoms such as depression, anxiety and post-traumatic stress syndrome (PTSD) (Barry, Whiteman, MacDermid Wadsworth, & Hitt, in review). Specifically, binge drinking was positively associated with psycho-somatic and PTSD symptoms among veterans, whereas binge drinking was either not associated with, or negatively related to these same symptoms in civilian students. While researchers speculate such differences may be due to student service member/veteran drinking as a coping measure (Barry et al., in review), or a form of self-medication (Chilcoat & Breslau, 1998), there are no studies to substantiate these claims. The overall aim of this study was to examine the nature and correlates of the drinking motivations of student service members/veterans and civilian students.

Drinking Motivations

In simplest terms, drinking motivations represent an individual’s reasons for using/drinking. In fact, these labels (drinking motivations and reasons for drinking) are often used interchangeably in the alcohol literature (Baer, 2002; Kuntsche, Knibbe, Gmel, & Engels, 2005). Stemming from Cox and Klinger’s (1988) Motivational Model of Alcohol Use, research of one’s drinking motivations is based on the assumption that alcohol is consumed to facilitate the achievement of a valued outcome (e.g., affective change expected from consuming alcohol). In other words, drinking motives typically refer to the psychological function and/or role that alcohol consumption fulfills (Baer, 2002). The Motivational Model of Alcohol Use hypothesizes that (a) drinking is motivated by different needs, and (b) drinking serves different functions. These unique motives are consequently linked to different consequences and antecedents. Traditionally, motivational drinking models were dichotomized into two broad drinking dimensions: “social” motives (i.e., drinking to boost one’s social confidence, be sociable, celebrate or have a good time) and “coping” motives (i.e., drinking to avoid disagreeable emotions or negative affective states, escape, manage life events) (Farber, Khavari, & Douglass, 1980; McCarty & Kaye, 1984). These early, expansive classifications have been refined to also include “enhancement” motives (i.e., drinking to enhance positive affect) (Cooper, Russell, Skinner, & Windle, 1992) and “conformity” motives (i.e., drinking to avoid social censure and ridicule of peers) (Cooper, 1994).

Among college students, extensive literature reviews establish drinking motives as powerful correlates/contributors for both alcohol use (Ham & Hope, 2003) and alcohol-related

problems (Kuntsche et al., 2005). For example, extant work on college students' drinking motives suggests that most civilian students report social motives, as compared to coping and enhancement motives (Stewart, Zeitlin, & Samoluk, 1996). Only a small percentage of young adults report drinking for coping reasons (Kuntsche et al., 2005). Yet, research demonstrates that the correlates of these two drinking motives are often very different. For example, drinking to cope is associated with both heavy drinking and the experience of alcohol-related problems. In contrast, social motives have been found to be negatively related to heavy drinking and alcohol-related problems (Kuntsche et al., 2005). To date, however, no studies have examined whether the associations between college students' motives to drink and drinking outcomes may vary as a function of military service. Therefore, the specific goals of this study were to: (a) explore whether student service members/veterans and civilian students reported differences in their motives to drink; and (b) investigate whether the linkages between those motives and drinking outcomes were the same for student service members/veterans and civilian students. Consideration will be given to the social, coping, enhancement, and conforming motivations for each group.

Method

Participants

The sample ($n = 252$) for this investigation consisted of 135 (107 male, 28 female) student service members/veterans and 117 (52 male, 65 female) civilian students. To participate, individuals had to be currently enrolled students attending an institution of higher education within one Midwestern state. Of the 16 different institutions from which participants were drawn, there was variability with regard to enrollment (4,000 to 40,000 students), affiliation (i.e., public versus private), and classification (e.g., residential versus commuter, 2-year versus 4-year).

Participants were largely White, non-Hispanic (92%). Student service members/veterans were older ($M = 30.72$, $SD = 8.10$ years) as compared to civilian students ($M = 24.58$, $SD = 7.80$ years), $t = 4.14$, $p < .01$. Veterans and student service members were also more likely to be married (46%) than were civilian students (10%), $\chi^2 = 43.63$, $p < .01$. All branches of the military were represented in the data, with relatively equal distribution among the Air Force (17%), Army (30%), Marines (13%), Navy (16%), and National Guard (18%); a small proportion of the sample served in the Coast Guard (2%) or the Reserves (4%). Overall, these distributions mirror that of the active duty numbers across service branches (Department of Defense, 2008). On average, veterans who were no longer active duty ($n = 91$; 68%) had been separated from the military for 6.96 years ($SD = 6.26$, range = 1 to 39 years).

Procedures

After having all procedures approved by appropriate Institutional Review Boards (IRB), data were collected via web-based survey. Eligible students from each institution received an initial e-mail invitation to participate in a survey examining civilian students' and student service members'/veterans' adjustment to university life. By replying to the initial invitation, students were indicating their interest in participating. These individuals were subsequently sent a secure link to the web-based survey. After entering the web-based survey, participants first completed informed consent procedures and then responded to a battery of questions lasting approximately 45 to 60 minutes. Responses were anonymous, with all personal information being kept in a separate secured survey. Of all participants who replied to the initial invitation, 70% completed the survey. Participants received an honorarium of \$50 for their participation.

Measures

Background and demographic information—Participants provided a variety of background information including age, gender, marital status, and ethnic minority group membership. Additionally, veteran and student service member participants reported their military branch, pay grade, and current status (i.e., active duty, Reserves, National Guard).

Motivations for alcohol use—Students' motivations for alcohol use were assessed using Cooper's (1994) 20-item measure indexing four different alcohol use motivations: (a) social; (b) coping; (c) enhancement; and (d) conformity. On a scale from 1 (*almost never/never*) to 5 (*almost always/always*) participants rated their how often they drank for different reasons. Each of the four subscales was measured using 5 items. Example items included "To be sociable" (social), "To forget your worries" (coping), "Because you like the feeling" (enhancement), and "To fit in with a group you like" (conformity). Scores were averaged across the 5 items for each of the four motivations, respectively, with higher scores denoting greater motivation. Descriptive statistics for each of these scales are presented in Table 1.

Problem drinking—Problem drinking was measured using two indices. Following the guidelines of NIAAA's Task Force on Recommended Alcohol Questions (2003), participants first reported their frequency of binge drinking (i.e., "During the last 12 months, how often did you have 5 or more drinks containing any kind of alcohol within a two-hour period?"). Response options ranged from 1 (*never*) to 11 (*everyday*), with higher scores on this item denoting a greater frequency of binge drinking. Second, participants completed the 4-item CAGE questionnaire (Ewing, 1984). Specifically, participants were asked to respond *yes* (1) or *no* (0) to whether they had ever been (a) told by others they should cut down on their drinking, (b) been annoyed by others for criticizing their drinking, (c) ever felt bad or guilty about their drinking, and (d) ever had a drink first thing in the morning to steady your nerves or get rid of a hangover. Scores were summed across the four items, with higher scores denoting more problematic drinking. See Table 1 for descriptive statistics on the problem drinking indices.

Results

To address our first study goal, whether there were differences in veterans'/student service members' motivations to drink alcohol as compared to civilian students, we conducted a series of Analysis of Covariance (ANCOVA). In these tests, military status (veteran/student service member vs. civilian) served as the between subjects factor, age, gender, and marital status served as the covariates, and the four alcohol motivation scales were entered as the dependent variables. Across the four motivation scales, no significant differences were detected as a function of military status; $F(1, 247) = 1.72, ns$, for social motivations; $F(1, 247) = .04, ns$, for coping motivations; $F(1, 246) = 1.78, ns$, for enhancement motivations; $F(1, 245) = 1.61, ns$, for conforming motivations. In other words, veterans/student service members were not different in their mean level of alcohol motivations as compared to civilian students.

To explore our second study goal, whether the links between alcohol motivations and alcohol use were different for veterans/student service members as compared to civilian students, we conducted a series of nested ordinary least square (OLS) regressions. In these models, we predicted the two drinking indices (i.e., frequency of binge drinking, and problem drinking as measured by the CAGE) separately, controlling for age (centered at its mean), gender (effect coded with males = -1 and females = 1), and marital status (effect coded with married = 1 and not married = -1). In step 1 of our models, we entered main effects for each of our motivation variables (centered at their means, respectively) and

military status (dummy coded with civilians as the reference group), as well as all covariates. In step 2, a two-way interaction between the military status and relevant motivation variable was added to the model. Significant interactions were followed up by examining the significance of the simple slopes following the procedures outlined by Aiken and West (1991). We present the results for each outcome separately and as a function of the motivation variable examined.

Social Motivations

As can be seen in Table 2, students' social motivations to drink alcohol were positively associated with both binge drinking ($\beta = .26, p < .01$) and problem drinking ($\beta = .26, p < .01$) net of control variables. These effects, however, were not moderated by military status for either outcome. In other words, social motivations were linked to binge and problem drinking similarly for veteran/student service members and civilian students.

Coping Motivations

With respect to coping motivations, initial models revealed no main effects for military status, but significant associations between coping motivations and both binge drinking ($\beta = .21, p < .01$) and problem drinking ($\beta = .28, p < .01$). As can be seen in Table 3, these effects were moderated by significant interactions with military status (see also Figures 1 and 2). Analyses of the simple slopes revealed that coping motivations were linked to binge ($\beta = .33, p < .01$) and problem drinking ($\beta = .42, p < .01$) for military veterans/student service members, but unrelated to these same outcomes for civilian students ($\beta = .10, ns$ for binge drinking and $\beta = .15, ns$ for problem drinking, respectively).

Enhancement Motivations

Initial enhancement motivations models revealed no overall military status differences, but significant associations between enhancement motivations and binge ($\beta = .29, p < .01$) and problem drinking ($\beta = .33, p < .01$) net of control variables. Similarly to the coping motivation models, these main effects were qualified by interactions with military status in step 2 of these models (see Table 4). Analyses of the simple slopes revealed that enhancement motivations were positively associated with binge and problem drinking in both groups of students, but the links were stronger for veterans/student service members ($\beta = .42, p < .01$ for binge drinking and $\beta = .44, p < .01$ for problem drinking, respectively) as compared to civilian students ($\beta = .17, p < .05$ for binge drinking and $\beta = .23, p < .05$ for problem drinking, respectively) (see Figures 3 and 4).

Conformity Motivations

With respect to the conformity motivation models, there were no significant effects for military status, conformity motivations, or their interaction in predicting binge drinking. For problem drinking, there was a significant main effect for conformity motivations ($b = .35, SE = .11, \beta = .21, p < .01$), such that greater conformity predicted more problem drinking net of control variables. Similarly to social motivations, however, this main effect was not qualified by an interaction with military status.

Discussion

While college students consume alcohol for a multitude of reasons, students most commonly report social motivations for drinking, more so than other motives such as coping and enhancement (Stewart et al., 1996). Our findings echo this trend, in that social motivations were linked to binge and problem drinking for both civilian students and veterans/student service members in our sample. Whereas civilian students and veterans/student service

members both drank due to social and enhancement (and to a lesser extent conformity) motives, they differed most in regards to coping motives. Specifically, coping motivations among veterans/student service members were linked to binge drinking frequency and problem drinking, yet unrelated to these drinking measures among civilian students. This difference among coping motives between our two student groups is not surprising considering only a small percentage of young adults typically report drinking for coping motives (Kuntsche et al., 2005). Yet, results from this study suggest that coping motivations may be particularly detrimental for student veterans and service members. It is important to note, however, that there were not mean differences in reports of coping (or any other motive for that matter). That is, student service members/veterans did not report coping as a motive to drink more than civilian students; instead, the *links* between coping and the two drinking outcomes were worse for military veterans/student service members.

The difference in coping motive links among veterans/student service members highlights several important concerns. First, college students who drink in order to cope report higher levels of alcohol consumption and experience more alcohol-related consequences as compared to students who drink for other reasons (Kuntsche et al., 2005; Park & Levenson, 2002). Second, drinking to cope is associated with high levels of neuroticism (i.e., dwelling on the negative, self-doubt) and low levels of agreeableness (i.e., indifference towards others, self-centeredness) (Loukas et al., 2000; Stewart, Loughlin, & Rhyno, 2001). Third, coping motives among college students are associated with negative views of one's self (McNally, Palfai, Levine, & Moore, 2003), alienation (Bradley, Carmen, & Petree, 1991), and depression (Stewart & Devine, 2000). Given this constellation of factors, veterans/student service members drinking to cope represent a particularly at risk sub-group on the college campus.

Despite the fact that individuals who drink to cope experience greater alcohol-related consequences, these persons typically continue to rely on the use alcohol (Britton, 2004). Such continued reliance on alcohol has the potential to lead to the development and maintenance of maladaptive drinking behaviors, which in turn will negatively influence their social relationships, familial responsibilities, vocational performance, and academic achievement. Presumably, military personnel and veterans are entering college to further their education and the employment opportunities available to them. Yet, veterans/student service members who drink to cope may be entrenched in a battle that will make it quite difficult to successfully navigate the transition from soldier to student. Moreover, since the typical student drinks as a result of social motives (Stewart et al., 1996), students who drink to cope are among the minority of their peers. Consequently, those with coping motives fall outside the reach of normative restructuring strategies (changing students' normative beliefs by spotlighting latent healthy norms), one of the more commonly employed approaches by college campuses to combat college alcohol use (Wechsler et al., 2003). Park and Levenson (2002) contend "an exclusive focus on social factors overlooks the substantial number of college students who report coping as a drinking motive" (p. 486). Moreover, a focus on social factors might fail to recognize at risk veterans/student service members as well.

Limitations

While filling a hole in the current literature by examining the drinking motives of veterans/student service members in college, the present study has several methodological shortcomings that should be noted. First, the cross-sectional nature of this investigation inhibits our ability to disentangle the causal ordering between students' drinking motives and alcohol consumption. On the one hand, motivations to drink could serve as precursor to future problem drinking; on the other hand, those same drinking behaviors could influence subsequent alcohol motivations. As a result, future research directions include longitudinal examinations on how the alcohol motivations and alcohol use/abuse of service affiliated

students (as well as civilian students) covary throughout college. Our results are also limited by the reliance on a single reporter and common method (e.g., Likert scales). Consequently, observed associations between motivations and alcohol consumption may be inflated because of method variance. In addition, although our sample was collected from a wide array of institutions (including private and public, community colleges and 4-year universities), the relative ethnic homogeneity of our sample limits our ability to generalize to more diverse groups. Given the increasing diversity of both the US military (Department of Defense, 2008) and American colleges and universities (Keller, 2001), it will be especially important that future work examine such associations in larger and more representative samples. Furthermore, given our relatively small sample of female veterans/student service members we were unable to examine whether the associations between motivations and alcohol use differed as a function gender. Despite representing an increasing proportion of the active duty force (14% in 2007) (USDVA, 2007), research on female service members has lagged behind that of their male counterparts. As a result, future research on student service members, and military populations in general, would benefit from attending to issues of gender diversity as well as racial/ethnic diversity.

Finally, despite the fact that American university students generally reside in computer friendly environments, our utilization of a web-based survey may have inhibited the participation of individuals without regular Internet access, leading to a potential bias in the composition of our sample. For example, a recent study examining the reasons for non-response to a web-based survey on college drinking found that Blacks and Hispanics were less likely to respond than Whites, and that those who did not respond reported drinking less frequently (Cranford et al., 2008). Although we were not able to assess potential participants' reasons for non-response, web-based surveys have shown considerable potential for measuring alcohol and substance use, exhibiting few differences from traditional paper and pencil methods and telephone interviews (e.g., Kypri, Gallagher, Cashell-Smith, 2004; McCabe, Diez, Boyd, Nelson, & Weitzman, 2006; Miller et al., 2002; Parks, Pardi, & Bradizza, 2006).

Conclusion

As military veterans return from deployment to pursue a higher education with assistance from the "new" G.I. Bill, college health practitioners and student affair administrators must equip themselves so they can provide these unique, non-traditional students with services tailored to their needs. Results from this study suggest that social, enhancement, and to a lesser degree conformity motivations, were positively linked to problem drinking among civilian and military affiliated students. Despite this commonality across these two groups, the links between coping motivations and problem drinking differed as a function of military status. As a result, coping motivations appear to be an important risk factor in predicting problem drinking among student service members and military veterans as compared to civilian students. Therefore, greater efforts should be made to: (a) provide support systems to veterans/student service members attending college, and (b) identify those who are using alcohol to cope. Given the psychological role/function drinking appears to be fulfilling among veterans/student service members (i.e., drinking to avoid negative affective states), this group seems especially at-risk for academic failure and negative health outcomes. Understanding and identification of the underlying motivations for drinking among veterans/student service members can allow for intervention strategies (e.g., counseling services) to be implemented for those in need, which will assist in their successful transition from military life to college life.

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Figure 1.
The association between students' coping motivations and the frequency of binge drinking as a function of military status.

Figure 2.
The association between students' coping motivations and problem drinking as measured by the CAGE as a function of military status.

Figure 3.
The association between students' enhancement motivations and frequency of binge drinking as a function of military status.

Figure 4. The association between students' enhancement motivations and problem drinking as measured by the CAGE as a function of military status.

Table 1

Descriptive statistics and correlations for measures of drinking motivations, binge drinking, and problem drinking (N = 252).

Variables	1	2	3	4	5	6
1. Social motivations	--					
2. Coping motivations	.47**	--				
3. Enhancement motivations	.70**	.62**	--			
4. Conformity motivations	.33**	.29**	.26**	--		
5. Binge drinking frequency	.33**	.22**	.34**	.06	--	
6. CAGE total	.23**	.26**	.32**	.21**	.26**	--
<i>M</i>	13.24	8.45	10.85	6.43	3.74	0.69
<i>SD</i>	5.03	4.77	5.04	2.95	1.76	1.00
<i>Range</i>	1 – 5	1 – 5	1 – 5	1 – 4	1 – 10	0 – 4
<i>α</i>	.90	.94	.89	.90	n/a	.61

* $p < .05$.

** $p < .01$.

Regression results from models predicting drinking outcomes as a function of social motivations, military status, and their interaction net of control variables (N = 246)

Table 2

Variable	Binge Drinking						Problem Drinking (CAGE)					
	Model 1			Model 2			Model 1			Model 2		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Intercept	3.51**	.18		3.52**	.18		.63**	.11		.63**	.11	
Age	-.03*	.01	-.16	-.03*	.01	-.16	.02*	.01	.15	.02*	.01	.14
Marital Status	-.38**	.13	-.20	-.39**	.13	-.20	-.03	.08	-.03	-.03	.08	-.02
Gender	-.37**	.11	-.20	-.37**	.11	-.20	-.10	.07	-.10	-.10	.07	-.10
Military Status	.02	.24	.01	.01	.24	.00	-.00	.15	-.00	.00	.15	.00
Social Motivations	.47**	.11	.26	.43**	.15	.24	.26**	.06	.27	.29**	.09	.29
M. Status X Social Motiv.				.08	.21	.03				-.05	.13	-.04
R ²	.22			.22			.08			.08		
F for change in R ²	13.50**			14			4.36**			17		

† $p < .10$.
 * $p < .05$.
 ** $p < .01$.

Table 3

Regression results from models predicting drinking outcomes as a function of coping motivations, military status, and their interaction net of control variables (N = 246)

Variable	Binge Drinking						Problem Drinking (CAGE)					
	Model 1			Model 2			Model 1			Model 2		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Intercept	3.56**	.18		3.57**	.18		.66**	.11		.67**	.11	
Age	-.04*	.01	-.20	-.04*	.01	-.18	.01	.01	.10	.02*	.01	.14
Marital Status	-.37**	.13	-.19	-.40**	.13	-.20	-.02	.08	-.01	-.03	.08	-.03
Gender	-.43**	.11	-.23	-.43**	.11	-.23	-.14*	.07	-.14	-.14*	.07	-.14
Military Status	-.06	.25	-.02	-.08	.24	-.02	-.04	.15	.02	-.05	.15	-.03
Coping Motivations	.39**	.11	.21	.18	.15	.10	.29**	.07	.28	.16	.09	.15
M. Status X Coping Motiv.				.44*	.22	.16				.29**	.13	.19
R ²		.20			.21			.09			.11	
F for change in R ²		11.87**			4.04*			4.89**			4.80**	

† $p < .10$.

* $p < .05$.

** $p < .01$.

Table 4

Regression results from models predicting drinking outcomes as a function of enhancement motivations, military status, and their interaction net of control variables (N = 245)

Variable	Binge Drinking						Problem Drinking (CAGE)					
	Model 1			Model 2			Model 1			Model 2		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Intercept	3.47**	.18		3.48**	.18		.57**	.11		.57**	.10	
Age	-.04*	.01	-.17	-.03*	.01	-.16	.01	.01	.09	.01	.01	.11
Marital Status	-.42**	.13	-.21	-.46**	.13	-.23	-.06	.08	-.06	-.08	.08	-.07
Gender	-.36**	.11	-.20	-.38**	.11	-.21	-.10	.07	-.10	-.11 [†]	.07	-.11
Military Status	.07	.24	.02	.05	.24	.01	.09	.14	.04	.08	.14	.04
Enhancement Motivations	.51**	.10	.29	.31*	.14	.18	.32**	.06	.33	.23	.08	.23
M. Status X Enhance. Motiv.				.42*	.20	.17				.20 [†]	.12	.14
R ²		.24			.25			.12			.14	
F for change in R ²		15.01**			4.33*			6.66**			2.76 [†]	

[†] $p < .10$.
 * $p < .05$.
 ** $p < .01$.