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Anxiety Sensitivity: A Unique Predictor of Dropout Among Inner-city Heroin and Crack/Cocaine Users in Residential Substance Use Treatment

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Abstract

The present study examined the extent to which anxiety sensitivity (AS) at treatment entry was related to prospective treatment dropout among 182 crack/cocaine and/or heroin dependent patients in a substance use residential treatment facility in Northeast Washington DC. Results indicated that AS incrementally and prospectively predicted treatment dropout after controlling for the variance accounted for by demographics and other drug use variables, legal obligation to treatment (i.e., court ordered vs. self-referred), alcohol use frequency, and depressive symptoms. Findings are discussed in relation to the role of AS in treatment dropout and substance use problems more generally.

Keywords

anxiety sensitivity; heroin; crack/cocaine; drug treatment; treatment completion

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Substance use disorders are widespread among the general population and associated with significant economic, societal, and personal costs (Grant et al., 2004; Regier et al., 1990). Though many individuals seek treatment for such problems, a large percentage dropout of treatment prematurely and relapse soon after (Hubbard, Craddock, Flynn, Anderson, & Etheridge, 1997; Ravndal & Vaglum, 2002; Simpson, Joe, & Brown, 1999). A growing number of investigations have empirically explored potential predictors of substance use treatment dropout, including demographics (Maglione, Chao, & Anglin, 2000), psychiatric symptoms (Hattenschwiler, Ruesch, & Modestin, 2001), emotional symptoms (McCusker, Stoddard, Frost, & Zorn, 1996), drug use severity (Ravndal & Vaglum, 1991), and a variety of social-cognitive variables (e.g., social support, self-efficacy, motivation to quit; Blanchard, Morgenstern, Morgan, Labouvie, & Bux, 2003; Daley, Salloum, Zuckoff, & Kirisci, 1998; Mertens & Weisner, 2000; Messina, Wish, & Nemes, 2000). However, due to little agreement on the consistency or the generalizability of these findings (Claus, Kindleberger, & Dugan, 2002; McFarlain, Cohen, Yoder, & Guidry, 1977; Nemes, Wish, & Messina, 1999; Alterman, McKay, Mulvaney, & McLellan, 1996; Agosti, Nunes, Stewart, & Quitkin, 1991), it has become apparent that it is important to identify and examine other constructs that may contribute to the understanding of the processes involved in a patient's decision to remain in or prematurely leave residential treatment.

Building from contemporary models of psychological vulnerability which suggest that the ways in which individuals evaluate and respond to internal events may influence risk for a variety of negative outcomes (e.g., Barlow, 2002), there is good reason to explore theoretically-relevant cognitive factors reflecting a hypersensitivity to aversive events in an effort to better understand treatment dropout processes among drug using populations (Brown, Lejuez, Kahler, Strong, & Zvolensky, 2005). One such cognitive vulnerability variable that may prove to be especially useful in understanding premature treatment attrition is that of anxiety sensitivity (AS). AS is an individual difference factor reflecting the fear of anxiety-related sensations, which arise from a belief that such sensations have harmful personal consequences (Reiss & McNally, 1985). The global AS construct encompasses fears of the physical, mental, and social consequences of anxiety-related sensations (Zinbarg, Barlow, & Brown, 1997), all of which can function to theoretically amplify preexisting anxiety (Reiss, 1991). AS has assumed an increasingly important, clinically-relevant role as a cognitive-based vulnerability factor for emotional disorders (McNally, 2002; Taylor, 1999). Indeed, recent studies suggest AS is related to maladaptive forms of emotional processing and affect regulation such as catastrophic thinking (Zvolensky, Forsyth, Bernstein, & Leen-Feldner, 2007; Zvolensky, Kotov, Antipova, & Schmidt, 2005), avoidance-based coping (Feldner, Zvolensky, Stickle, Bonn-Miller, & Leen-Feldner, 2006; Tull & Gratz, 2008; Zvolensky & Forsyth, 2002), as well as emotion dysregulation (Kashdan, Zvolensky, & McLeish, in press; Tull, 2006; Tull & Gratz, 2008). Further, AS has been found to be associated with a general inability to tolerate uncomfortable bodily sensations (Schmidt, Richey, & Fitzpatrick, 2006) which may place an individual at risk for worse anxiety-related outcomes. Specifically, high AS, combined with an intolerance for uncomfortable bodily sensations, has been found to be predictive of greater subjective anxious responding to a CO₂ challenge (Schmidt, Richey, Cromer, & Buckner, 2007).

The recognition that AS is related to aversive anxiety states and dysfunctional aspects of emotional processing (McNally, 2002) has lead researchers to theorize that this cognitive factor may be related to the maintenance of substance use disorders (Brown et al., 2005; Morissette, Tull, Gulliver, Kamholz, & Zimering, 2007; Norton, 2001; Otto, Powers, & Fischmann, 2005; Otto, Safren, & Pollack, 2004; Stewart & Kushner, 2001; Stewart, Samoluk, & MacDonald, 1999; Tull, Baruch, Duplinsky, & Lejuez, 2007; Zvolensky & Bernstein, 2005; Zvolensky, Schmidt, & Stewart, 2003). To the extent that AS reflects a

sensitivity to (and is related to an intolerance of) certain internal states, individuals with greater levels of this cognitive factor may be apt to use drugs and/or alcohol to regulate affective distress. In line with predictions derived from such models, AS has been found to be related to coping-oriented motives for cigarette smoking (Brown, Kahler, Zvolensky, Lejuez, & Ramsey, 2001; Zvolensky, Schmidt et al., 2005), alcohol (Conrod, Pihl, & Vassileva, 1998; Stewart, Karp, Pihl, & Peterson, 1997; Stewart, Zvolensky, & Eifert, 2002), and cannabis (Bonn-Miller, Zvolensky, & Bernstein, 2007; Comeau, Stewart, & Loba, 2001). Additionally, AS is related to heavier alcohol use patterns (Cox, Swinson, Shulman, Kuch, & Reichman, 1993; Stewart, Peterson, & Pihl, 1995; Stewart, Zvolensky, & Eifert, 2001; Zvolensky, Kotov, Antipova, Leen-Feldner, & Schmidt, 2005) and may be elevated among individuals who use substances that primarily function to dampen central arousal such as heroin (Lejuez, Paulson, Daughters, Bornovalova, & Zvolensky, 2006). These data collectively suggest that AS is related to coping-oriented use patterns for numerous substances.

Recognizing the explanatory utility of AS to coping-oriented substance use and other problematic aspects of drug use behavior, researchers have theorized that this cognitive factor may increase risk for poor substance use treatment outcomes (Otto et al., 2005; Stewart et al., 1999; Zvolensky, Schmidt et al., 2005). To the extent that individuals with high AS do not have adequate psychological resources to successfully cope with such aversive events, they may be more likely to prematurely terminate substance use treatment. This research is supported by a study suggesting that AS, relative to other predictors, may have utility in identifying patients who dropout of antidepressant trials, perhaps because of a heightened sensitivity to the side effects from these medications (Tedlow et al., 1996). Likewise, data suggest that heightened AS is a risk factor for early lapse during smoking cessation (Brown et al., 2001), and the degree of change in AS has been a significant predictor of relapse among those discontinuing use of benzodiazepines (Bruce, Spiegel, Gregg, & Nuzzarello, 1995).

Building from these previous AS findings, we examined the extent to which AS at baseline (i.e., treatment entry) was related to prospective treatment dropout. This research was conducted in an inner-city residential treatment center, a setting which is especially relevant for such work given that it often includes especially difficult to treat patients and evidences especially low rates of treatment completion (SAMHSA, 2002). Further, this work adds to a relative small body of research examining AS among minority individuals and specifically minority inner-city substance users (cf. Lejuez et al., 2006). In doing so, we controlled for other theoretically-relevant factors (e.g., demographics and other drug use variables, depressive symptoms, and legal obligation to treatment) in an effort to isolate the unique variance accounted for by AS in regard to treatment dropout and to ensure such effects are not attributable to shared variance with other theoretically-relevant characteristics.

Method

Participants and Setting

Potential participants were 204 consecutive admissions to a substance use residential treatment facility in Northeast Washington DC, recruited between their 4th and 7th day at the Center. Inclusion in the present study required dependence on heroin and/or crack/cocaine; individuals not dependent on these drugs, as determined by a Structured Clinical Interview for DSM-IV-TR Axis I Disorders (SCID-IV; First, Spitzer, Gibbon, & Williams, 2002) in the context of a larger study focused on crack/cocaine and heroin dependence, were excluded. Based on this criterion, 22 individuals were excluded (36.4% were dependent only on marijuana, 31.8% were dependent only on hallucinogens including PCP, and 31.8% were dependent on some combination of these three substances). No potential participant was

dependent only on alcohol. Of the final sample of 182 participants, 67% were male, 94% were African American (due to a lack of variability, this variable was not considered in the analyses), and 78% were court ordered for treatment. The average age was 42.2 ($SD = 7.7$), the average income was \$22,127 ($SD = \$20,263$), and in terms of education, 25.4% had not completed high school, 37.9% completed high school (or GED), and 36.8% completed at least some college, technical or trade school.

The center offers four contract durations determined at admission including 30 days ($n = 71$; 39%), 60 days ($n = 39$; 21.4%), 90 days ($n = 32$; 17.6%), and 180 days ($n = 40$; 22%) and treatment involves a mix of strategies adopted from Alcoholics and Narcotics Anonymous, as well as group sessions focused on relapse prevention and functional analysis. The center requires complete abstinence from drugs and alcohol (methadone maintenance is not available), with the exception of caffeine and nicotine; regular drug testing is provided and any use is grounds for dismissal from the center. Admission into the Center required outside detoxification as needed prior to entry. This fact, combined with delaying recruitment into the study until at least day 4, served to limit the influence of physical withdrawal symptoms on study responses.

Measures

In addition to the drug dependence section of the SCID-IV and a demographic questionnaire, three other measures were used to index a) frequency of past year substance use prior to treatment, b) AS, and c) severity of depressive symptoms. To assess substance use frequency, participants rated frequency of use of a particular substance in the past year prior to treatment on a 6-point scale ranging from 0 = *none* to 5 = *every day*. In addition to crack/cocaine and heroin, the substances of interest here were: (a) cannabis, (b) alcohol, and (c) hallucinogens including PCP; other substances were not included due to minimal use. The approach is based off the highly reliable and valid *Alcohol Use Disorders Test* (AUDIT; Saunders, Aasland, Babor, DelaFuente, & Grant, 1993) and has been used for similar purposes as here in several other studies (e.g., Daughters et al., 2005; Lejuez et al., 2006). The *Anxiety Sensitivity Index* (ASI; Peterson & Reiss, 1992) is a reliable and valid 16-item self-report questionnaire that assesses the degree to which an individual is concerned about the possible negative consequences of arousal-based anxiety symptoms. The ASI provides a single, higher order AS factor that is composed of three lower-order factors (i.e., physical concerns, mental incapacitation concerns, and social fears of publicly observable anxiety reactions; Zinbarg et al, 1997). Given evidence that the ASI demonstrates moderate correlations with trait anxiety and neuroticism (see Lilienfeld, 1999), it was important to establish that there is a *unique* relationship between AS and treatment drop-out. Therefore, participants were also administered the *Center for Epidemiological Studies – Depression Scale* (CES-D; Radloff, 1977), a reliable and valid 20-item self-report scale designed to measure depressive symptomatology in the past two weeks. In addition to controlling for depression-related symptomatology, the inclusion of this measure is useful for isolating the specific contribution of AS because the CES-D is moderately to highly correlated with measures of related constructs including neuroticism (as assessed by the Eysenck Personality Questionnaire [EPQ; Eysenck & Eysenck, 1991] and the Revised NEO Personality Inventory [NEO-PI-R; Costa & McCrae, 1992]) and trait anxiety (as assessed by the State-Trait Anxiety Inventory [STAI; Spielberger, Gorsuch, & Lushene, 1970]), with r s ranging from .50 to .71 (see Dunkley, Blankstein, & Flett, 1997; Orme, Reis, & Herz, 1986; Schroevers, Sanderman, van Sonderen, & Ranchor, 2000).

Results

Across all contract dates, 25.3% ($n = 46$) dropped out of treatment^{1, 2}. As shown in Table 1, dropout status (controlling for contract duration) did not differ across age, education, gender,

and income, as well as substance use frequency (past year) or current dependence across alcohol, marijuana, hallucinogens including PCP, crack/cocaine, or heroin. Dropouts compared to completers evidenced higher depressive symptoms and were significantly less likely to be court-ordered to treatment. Finally, dropouts compared to completers evidenced significantly higher AS Total, with this significant difference persisting across the subfactors for the AS Cognitive and AS Social; no difference was evident for AS Physical.

A positive association was found between AS and depressive symptoms ($r = .25, p < .001$). AS was not significantly associated with age, education, gender, income, and legal obligation, as well as substance use frequency (past year) or dependence across substances with the exception of a mild positive relationship between AS and alcohol frequency ($r = .15; p < .05$). Across the subfactors, a correlation existed between depressive symptoms and both AS cognitive and AS Physical ($r = .31, p < .001; r = .22, p < .001$), but not the social subscale ($p > .15$). Controlling for contract duration did not change any of the significant relationships with contract duration or AS Total and its subfactors, however, doing so eliminated the significant relationship between depressive symptoms and dropout.

To examine the incremental validity of AS above and beyond other relevant variables, a logistic regression was conducted (Z-scored values were used for ease of comparing OR's across continuous and categorical predictors). Level 1 included contract time, Level 2 included legal obligation, depressive symptoms, and alcohol frequency as covariates due to their significant relationship with either dropout or AS, and Level 3 included AS (see Table 2). The final model was significant ($p < .001$), and as hypothesized, AS provided significant incremental validity ($OR = 1.54; p < .05$). When additional regressions were conducted separately for each AS subfactor, AS Social was significant ($OR = 1.61; p < .05$, respectively), with AS Cognitive approaching significance ($OR = 1.45; p = .055$); AS physical was not significant ($OR = 1.34; p = .142$).

We also conducted a discrete-time survival analysis to predict days until dropout using Cox proportional hazards regression. Again controlling for contract duration, legal obligation, depressive symptoms, and alcohol frequency, AS provided incremental validity in a second step $\chi^2(1) = 6.23, p < .05$, and the final model was significant, $\chi^2(5) = 14.48, p < .05$, with AS score significantly related to treatment dropout, $B = 0.38, SE = 0.15, Wald = 6.26$, hazard ratio = 1.47, $p = .012$. To allow for visual presentation of this analysis, Figure 1 presents these results with AS dichotomized (Low AS ≤ 26 ; High AS > 26). When additional discrete-time survival analyses were conducted separately for each AS subfactor, AS Social was significant ($OR = 1.61 < .01$), with AS cognitive and physical both approaching significance ($OR = 1.30 = .056; OR = 1.35 = .061$).

Discussion

Although individuals seeking and enrolled in substance use treatment often do not complete treatment (Blanchard et al., 2003; Daley et al., 1998), little is known about the factors that govern such behavior. This study evaluated whether AS is uniquely related to an increased risk of dropout among consecutive admissions to a substance use residential treatment

¹Other analyses were possible including limiting dropout just to the first 30 days (minimum contract across participants) or using percent of contract completed. Although both provide similar findings to dropout at any time controlling for contract duration as used throughout, the first is limited by a considerably smaller percentage of dropouts (14.8%) and the second by skew associated with 74.6% evidencing a percent completion of 100%. Finally, total number of days in the center is not appropriate as residents rarely could choose their contract length and could stay beyond the agreed length only under extreme circumstances.

²Termination of treatment prior to the contract duration set at intake could occur for voluntary reasons or removal due to noncompliance, however, because findings were not differentially related to either type of treatment termination, both sets of individuals were collapsed into a single dropout group as has been done in previous work (Daughters et al., 2005).

focusing on individuals dependent on heroin, crack/cocaine, or both. Consistent with prediction, AS was significantly elevated among those dropping out compared to those completing substance use treatment. Further analysis indicated AS also incrementally and prospectively predicted treatment dropout after controlling for the variance accounted for by the other theoretically and empirically-relevant factors of legal obligation and depressive symptoms, as well as alcohol use frequency. These findings suggest that the observed AS treatment-dropout effect is relatively unique and not attributable to shared variance with other relevant factors. In turn, this suggests that a hypersensitivity to noxious states, a core process implicit to the AS conceptual models (McNally, 2002), may be formative in shaping individual susceptibility to treatment dropout among drug users in residential treatment.

In addition to overall AS, we also examined the subfactors individually. Although findings were largely consistent, only AS Social was a significant predictor. This finding may be especially relevant to residential treatment such as that in the current study given the overarching lack of privacy in this type of setting (e.g., from open access dining to sleeping arrangements). That is, fears of the negative consequences of social presentation may be particularly relevant for understanding treatment dropout in this particular context. It may have been expected for the physical concerns lower-order factor to be related to dropout. The absence of this finding may be due in part to a unique feature of this setting. Specifically, the Center requires patients complete detoxification before entering. It may be that patients with physical AS concerns might self-select themselves out of treatment because they could not complete detoxification. In all cases, the present data highlight the need to better understand AS global and lower-order factors in regard to treatment dropout among individuals in residential and other therapeutic settings.

A number of questions emerge from the investigation. Perhaps foremost among these is isolating the mechanism by which AS is related to treatment dropout. Based upon previous work (Brown et al., 2001; Stewart et al., 1997) and conceptual models (Otto et al., 2005; Stewart et al., 1999), coping-oriented substance use motives may play a formative role. There is evidence to suggest AS increases the risk for adverse emotional experiences among drug using individuals in terms of withdrawal symptom profiles (Zvolensky et al., 2004) and anxiety-related symptoms (e.g., panic attacks; Zvolensky, Kotov, Antipova, & Schmidt, 2003). Extrapolating from such work, persons with heightened concern about the negative consequences of internal sensations may be more apt to use drugs in an effort to reduce distressing reactions and thereby discontinue treatment voluntarily or due to noncompliance. It would be advisable for future research to examine the linkages between AS, the specific motivational basis for drug use, and treatment dropout from residential clinics.

There also are a number of other interpretative caveats and directions for future research that deserve comment. First, despite the benefits of a prospective design, the present research design is limited nonetheless in terms of causal model hypothesis testing. Thus, it is unclear if AS is leading to higher rates of treatment dropout or whether some other characteristic or set of variables is contributing to both AS score and dropout. Although we examined a wide range of theoretically and empirically-relevant factors noted in past research on this topic, other factors not included such as frequency of life stressors or distress tolerance (Daughters et al., 2006) also may be playing a role in the interplay between AS and treatment dropout. It would be useful therefore for future work to expand the number and type of variables studied in relation to treatment dropout within a larger integrated theoretical framework. Second, the present sample was comprised of inner city African American patients who were court-ordered to residential treatment and dependent on heroin, crack/cocaine, or both. Thus, although our sample represents an important underserved group, it is unclear to what extent our results would generalize to participants with characteristics that differ across developmental (e.g., youth), ethnic (e.g., multiple ethnic groups of cultural backgrounds),

legal (e.g., larger percentage of individuals seeking treatment with no legal obligation), and geographic domains (e.g., rural treatment settings), as well as other types of treatment settings (e.g., outpatient). Further, as discussed above the requirement that patients enter the Center after completing detoxification may have limited the robustness of the AS results, with specific relevance to the physical subscale. It is important for future work to assess patients in other types of setting where detoxification occurs as part of treatment and not as a prerequisite.

Third, the current study was underpowered to examine relationships across drug choice (i.e., heroin only defined as heroin dependent and not dependent on crack/cocaine, crack/cocaine only defined as crack/cocaine dependent and not dependent on heroin, and those dependent on both drugs) as a moderator of the effect between AS and treatment dropout, which would be relevant given previous work establishing a specific link between high AS and heroin dependent individuals with little to no crack/cocaine use (see Lejuez et al., 2006). Following from this work, it would be useful to investigate to what extent those with high AS who choose heroin and avoid crack/cocaine may be especially vulnerable to dropout. At a descriptive level, the current data provide some suggestive evidence. Specifically, among those who dropped out of the Center, AS was highest for heroin only ($M = 35.7$; $SD = 14.6$), lowest among those dependent on crack/cocaine only ($M = 28.6$; $SD = 8.6$), and in the middle for those dependent on both drugs ($M = 32.4$; $SD = 19.1$); in contrast there was little difference among these groups for those completing treatment (heroin only $M = 25.74$, $SD = 13.8$; crack/cocaine only $M = 26.0$, $SD = 10.9$; Both $M = 23.9$; $SD = 10.1$). However, because of a modest number of individuals dependent only on heroin (20% of the total sample), there were simply too few dropouts from this group for statistical analyses. To address this important issue in future research, investigators should *a priori* plan to collect larger samples to allow for a sufficient number of heroin only and crack/cocaine only participants to determine if drug preference moderates the relationship between AS and dropout.

Fourth, although we controlled for several key variables including demographics, legal obligation, substance use frequency, and depressive symptoms, arguments could be made for utilizing several other key variables. In particular, studies have consistently demonstrated moderate correlations between AS and the personality dimensions of trait anxiety and neuroticism (Lilienfeld, 1999). Given that our measure of depressive symptoms (the CES-D) also has been found to be moderately to highly correlated with trait anxiety and neuroticism (Dunkley et al., 1997; Orme et al., 1986; Schroevers et al., 2000), it may be considered an adequate proxy for these personality traits in this early stage of research. However, because the CES-D does not capture all variance associated with trait anxiety and neuroticism, it is important for future studies to assess and control specifically for these personality traits in order to better establish the unique relationship between AS and relevant substance use outcomes.

Overall, the current study reflects an important, initial step in evaluating the role of AS in residential treatment dropout among drug dependent individuals. These data uniquely add to the growing theoretical (Morissette et al., 2007; Otto et al., 2005; Stewart et al., 1999; Tull et al., 2007; Zvolensky et al., 2003) and empirical (Brown et al., 2001; Conrod et al., 1998; Zvolensky, Schmidt et al., 2005) literature linking AS to the nature of certain aspects of substance use problems. Moreover, the current findings provide a solid basis for future research in this area, including basic and clinical research focused on the role of AS in affective disturbances during the course of addictive drug use patterns and treatment outcome. In better understanding the mechanisms through which treatment dropout occurs, researchers could begin to devise integrated treatment protocols for certain drug use

populations that address this cognitive vulnerability in order to enhance retention rates (e.g., see Tull, Schulzinger, Schmidt, Zvolensky, & Lejuez, 2007).

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Figure 1. Discrete-time survival analysis to predict days until dropout using Cox proportional hazards regression as a function of low (≤ 26) or high score (> 26) on the Anxiety Sensitivity Index controlling key covariates.

Table 1

Key variables as a function of dropout status.

	Completer (n = 136)	Dropout (n = 46)
Age	43.10 (7.64)	40.63 (7.39)
Education	24.0% < HS < 37.8%	23.9% < HS < 34.8%
Gender	69.1% male	60.9% male
Income	49.3% < \$10,000 < 50.7%	52.2% < \$10,000 < 47.8%
Legal Obligation **	84.6%	56.5%
Crack/cocaine Dependence	76.5%	87.0%
Heroin Dependence	50.0%	43.5%
Depressive Symptoms *	22.14 (10.81)	26.33 (12.75)
Anxiety Sensitivity *	25.41 (11.96)	29.80 (10.98)
Cognitive Subscale *	3.52 (3.14)	4.89 (3.53)
Physical Subscale	13.99 (7.79)	15.91 (6.81)
Social Subscale *	7.89 (3.15)	9.00 (3.06)

Note. HS indicates High School or GED/equivalent; Depressive symptoms are taken from score on the Center for Epidemiological Studies - Depression Scale; AS indicates raw total scores from the Anxiety Sensitivity Index;

* $p < .05$;

** $p < .01$.

Table 2

Summary of regression analysis examining the incremental validity of AS in the prediction of treatment dropout.

	<i>df</i>	<i>F</i>	<i>B</i>	<i>SE</i>	<i>Wald</i>	<i>OR</i>	<i>CI's</i>
Level 1	1	19.684**					
Contract Duration			.736	.169	18.854	2.087**	1.497 – 2.913
Level 2	4	25.006**					
Contract Duration			.522	.209	6.278	1.686*	1.120 – 2.538
Legal Obligation			-.773	.485	2.543	0.462	0.179 – 1.194
Alcohol Frequency			-.116	.186	0.393	0.890	0.619 – 1.281
Depressive Symptoms			.266	.185	2.078	1.305	0.909 – 1.874
Level 3	5	29.689**					
Contract Duration			.492	.210	5.510	1.638*	1.085 – 2.473
Legal Obligation			-.967	.502	3.706	0.380*	0.142 – 1.018
Alcohol Frequency			-.116	.188	0.382	0.890	0.615 – 1.288
Depressive Symptoms			.182	.192	0.900	1.200	0.823 – 1.748
Anxiety Sensitivity			.429	.204	4.442	1.536*	1.031 – 2.290

* indicates $p < .05$;

** indicates $p < .01$.