0145-6008/99/2308-1289$03.00/0
ALCOHOLISM: CLINICAL AND EXPERIMENTAL RESEARCH

Vol. 23, No. 8
August 1999

# Psychometric Properties of the Penn Alcohol Craving Scale

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**Background:** This study introduces the Penn Alcohol Craving Scale (PACS), which has been used in several clinical trials at the University of Pennsylvania's Treatment Research Center. The PACS is a five-item, self-report measure that includes questions about the frequency, intensity, and duration of craving, the ability to resist drinking, and asks for an overall rating of craving for alcohol for the previous week. Each question is scaled from 0 to 6.

**Methods:** To examine the questionnaire's psychometric properties, we sampled responses from 147 individuals participating in a 9-month combined natrexone (100 mg/day)/psychotherapy trial. The psychotherapy consisted of weekly sessions of nurse-administered medication compliance and supportive treatment.

**Results:** The PACS proved to have excellent internal consistency. Predictive validity was demonstrated via a logistic regression analysis of craving during the 2nd week of the study on alcohol relapse during weeks 3–12 of the trial. Construct validity of the PACS was demonstrated via its convergence with two commonly used measures for assessing craving, the Obsessive Compulsive Drinking Scale and the Alcohol Urge Questionnaire. Lack of correlation between PACS scores and several other noncraving, self-report measures indicates that the PACS also had good discriminant validity. Additional analyses revealed that there were significant differences in craving scores during the initial 3 weeks of the trial among those who did and those who did not relapse during weeks 3–12.

**Conclusion:** The PACS is a reliable and valid measure of alcohol craving and can predict which individuals are at risk for subsequent relapse.

**Key Words:** Alcoholism, Craving, Questionnaire, Reliability, Validity.

CLINICIANS AND RESEARCHERS agree that craving is a hallmark of alcohol dependence and that it may precede drinking (Kozlowski et al., 1989; Ludwig and Stark, 1974; Ludwig and Winkler, 1974; Marlatt, 1985). In evaluating treatments for alcoholism, it is important to examine the role that craving plays in relapse. Several instruments designed to assess craving have been developed, and it is common for one or more of these craving scales to be used in pharmaceutical and/or psychosocial interventions for addiction (Anton et al., 1996; Bohn et al., 1995). However, it is not clear whether these instruments are measuring craving or some other related phenomenon. In this paper, we present a measure of craving that addresses some of the problems inherent in existing measures.

Whereas most persons within the addictions field endorse craving as a measurable construct, it is not clear what craving means (Pickens and Johanson, 1992; Sitharthan and Saunders, 1992). One of the earliest views was that craving is a consequence of drinking, elicits more drinking, and leads to a loss of control over the amount consumed. Craving was understood strictly as a physiologically induced phenomenon brought about by the introduction of alcohol into the system and was seen as being essentially analogous to the subsequent development of withdrawal symptoms (Ludwig and Winkler, 1974; Ludwig et al., 1974). More recently, craving has been viewed as a "reaction" to an aversive state of withdrawal (i.e., the desire to alleviate physical distress leads to psychological craving for alcohol) and/or as an incentive, motivational state that precedes or occurs in conjunction with drinking (but cf. Tiffany, 1990). Some researchers view craving as a product of classical conditioning, i.e., a conditioned response to stimuli other than alcohol (O'Brien et al., 1990; Seigel, 1983; Stewart et al., 1984). For example, external stimuli such as the sight of "drinking buddies" or even money, may elicit craving for alcohol. Internal stimuli such as emotional states may also be conditioned and elicit craving. Interestingly, these internal stimuli may be aversive, such as stress, depression, or anxiety, or may be positive, such as in a celebratory situation (Baker et al., 1987).

Regardless of the origins or definition of craving, patients frequently report the phenomenon (Marlatt, 1985).

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*Received for publication December 11, 1998; accepted May 20, 1999.*

*This work was supported by grants T32 DA07241 and R01AA-07517 from the National Institute of Drug Abuse and from the National Institute of Alcoholism and Alcohol Abuse.*

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In response, some clinicians have incorporated strategies for coping with and overcoming craving (Childress et al., 1991). Such strategies are driven by the belief that severe craving for alcohol during or after treatment may be a risk factor for relapse. Despite this obvious assumption, there are no empirical data that demonstrate that "craving at time 1 predicts drinking at time 2." Whereas several craving instruments correlate with severity of alcohol dependence (Bohn et al., 1995) or with the "consequences of craving" (Modell et al., 1992), none have shown the ability to predict relapse.

The simplest instrument designed to assess craving is the 100-mm Visual Analogue Scale (VAS) that requires a person to rate the intensity of craving by making a mark on the line that is anchored by such statement as "not at all" to "extremely." Because the VAS is a single-item, single-factor scale that is easily administered, it has been used extensively in clinical trials. In some cases, the VAS has been shown to possess good concurrent but not predictive validity (Bohn et al., 1995).

Alternatively, there are multi-question, multi-factor instruments such as the Obsessive-Compulsive Drinking Scale (OCDS) that attempt to measure craving within the boundaries of a specific theoretical framework (Modell et al., 1992). The OCDS measures component aspects of craving, such as obsessive thoughts about drinking. In addition, the OCDS measures compulsions to drink and the interference to normal functioning caused by these thoughts and behaviors. However, multidimensional instruments such as the OCDS can be problematic for assessing craving when the questions encompass dimensions of alcohol dependence other than craving.

Our aim in developing the Penn Alcohol-Craving Scale (PACS) (Appendix) was to devise an instrument with the advantages but not the inherent disadvantages of the single- and multiple-item scales. The PACS is a multi-item, single-factor scale that is quickly and easily administered. The first three questions are centered on the frequency, intensity, and duration of thoughts about drinking. The fourth question asks the individual to rate his/her ability to resist drinking if alcohol is available. The final question asks the subject to rate his/her overall average craving for alcohol during the previous week. We chose weekly administrations for several reasons. First, patients in clinical trials at our Center are typically scheduled for weekly visits. Second, and more important, weekly craving assessment is more practical than either daily, day-of-treatment assessment, or monthly assessment. The daily or day-of-treatment assessment may give a distorted picture of craving, in that a subject's craving could be inordinately high or low on any particular day, or a subject could underestimate his/her craving because of the demand characteristics of the treatment situation. A once-a-month assessment may provide an inaccurate picture of craving, because the time frame may simply be too long for a person to accurately remember or average his/her craving status. A weekly assessment seems to be an ideal period of time for measuring craving, because it may capture a range of craving states from very mild to quite intense. For example, an individual may socialize with former drinking partners on the weekends and experience a strong desire to drink alcohol, whereas, during the working week, a person may feel only intermittent mild urges while viewing television commercials or passing liquor stores.

By limiting PACS questions to craving characteristics (i.e., how often, how strong, how long) without directly asking about craving's aversive quality or incentive properties, we believe that the PACS allows the addicted individual a great deal of latitude to view craving as either an aversive or appetitive state, or both. The format of the PACS also precludes exposing subjects to any of our own preconceived ideas about craving that could possibly introduce response bias.

## MATERIALS AND METHODS

### *Subjects and Study Description*

For the present analyses, we chose 147 subjects participating in a naltrexone/psychotherapy trial for whom we had pretreatment drinking and craving information. From these 147 subjects, there were 133 who had craving data for study week 2. Thirteen of these subjects missed the study week 3 visit, during which study week 2 craving was assessed; one subject dropped out of the trial after week 2.

The trial participants, men and women between 20 and 72 years old, had been recruited through local advertisements for participation in a treatment research study of naltrexone/placebo and nurse-delivered behavioral support therapy at the Treatment Research Center of the University of Pennsylvania between 1995 and 1997. All met the criteria for a DSM-III-R diagnosis of alcohol dependence as determined by the Structured Clinical Interview for DSM-III-R (Spitzer et al., 1988). All subjects included in this paper gave written informed consent to participate in a treatment evaluation study. Subjects were excluded if they met current substance dependence criteria for any substance other than alcohol or nicotine. Before entering the study, subjects were required to complete successfully a week of detoxification in which their blood alcohol concentration had to be negative by a breathalyzer test during at least five of seven daily visits. Some subjects were treated with oxazepam during this period.

The subjects' pretreatment drinking and craving data included in this paper was collected at study week 0 (the pre-randomization/screening visit). Weekly drinking and craving data were obtained at the first three study visits (study weeks 1, 2, and 3). Subjects were randomized and began receiving their blister packages of either natrexone or placebo at the study week 1 visit.

### *Procedures for Assessing Reliability and Validity of the PACS*

For an instrument to be considered psychometrically sound, its reliability and validity must be demonstrated. Reliability or internal consistency indicates how well an instrument's individual items correlate with one another and with the total score. Validity refers to how well an instrument assesses the construct it was designed to measure. In determining whether the PACS possessed validity, we examined both construct validity and predictive validity. Construct validity is typically determined through comparisons of the test instrument with other scales previously shown to assess the same (convergent validity) and different (discriminant validity) behaviors or subjective states. To determine convergent and discriminant validity, we examined the correlations between the PACS and

two other available scales that measure craving and two scales that assess other characteristics associated with alcohol dependence.

Predictive validity refers to the relationship between scores on one instrument and the scores from subsequent administrations of another instrument measuring a different behavior or subjective state. Craving and drinking are two characteristics of alcohol dependence. To determine whether the PACS possesses predictive validity, we sought to demonstrate that PACS scores were related to a specific period during which subjects either did or did not relapse.

We also examined another predictive characteristic of the PACS: its ability to discriminate between those who relapsed and those who did not relapse. Whereas this characteristic is not generally considered a form of validity, it is important to consider in the context of alcohol dependence treatment and research. If there is a relationship between level of craving and relapse, one could reasonably assume that changes in level of craving are a function of treatment and/or sobriety. The relationship between craving and subsequent relapse was assessed via comparisons of the weekly scores of those who either did or did not relapse.

### *Assessment of Psychometric Properties*

*Reliability.* To assess the internal consistency of PACS, we examined how well the individual items of the PACS reflected a unified construct via the standard reliability statistic. We also explored the relationship between the individual items of the PACS and the total PACS scores at the study week 0 (the pre-randomization/screening) visit.

*Predictive Validity.* For our outcome variable, a dichotomous drinking categorization for study weeks 3–12 of the trial was tabulated from the subjects' Timeline Follow-Back (TLFB) (Sobell et al., 1988) reports. In essence, subjects were classified as having relapsed (i.e., having had five or more drinks on any one occasion), or as not having relapsed, during study weeks 3–12 of the trial. Study week 3 PACS scores (which reflected craving for week 2) were analyzed in conjunction with subjects' relapse status by using several statistical procedures to assess whether craving was significantly related to subsequent drinking.

*Construct Validity.* To determine whether the PACS possesses convergent validity, we examined the relationships between the study week 0 PACS scores and scores from the OCDS and the Alcohol Urge Questionnaire (AUQ) (Bohn et al., 1995). To assess the discriminant validity of the PACS, we examined the correlations among the study week 0 visit PACS scores, psychiatric and family/social composite Addiction Severity Index (ASI) scores (McLellan et al., 1980), and the total score from the Drinker's Inventory of Consequences (DrInC) (Miller et al., 1995).

### *Instruments*

The subjects' demographics and drinking histories were obtained from the following measures collected at the pre-randomization visit: the Addiction Severity Index (ASI), the TLFB, and the Drinker's Inventory of Consequences (DrInC). The ASI, administered by a trained clinician or research technician, includes questions about an individual's status in seven areas of his/her life (medical, employment, legal problems, drug and alcohol use, psychiatric diagnoses/treatment, and family/social relationships). The TLFB is an interview style assessment that uses a calendar format to record the quantity and frequency of drinking during a stated period of time. In the present case, we recorded drinking patterns for the 90 days preceding detoxification. Quantity of alcohol is recorded in standard drinks (e.g., a 12-oz beer = one standard drink, and 1½oz hard liquor = one standard drink). The DrInC is a 50-item self-report questionnaire that measures adverse consequences of alcohol abuse in five areas (physical, social, interpersonal, intrapersonal, and impulsive control).

The following instruments were used to assess craving: the OCDS, the AUQ, and the PACS. The OCDS is a 14-item self-report scale that asks subjects to rate their thoughts about drinking, drinking behavior, and the extent to which these thoughts and behaviors may interfere with normal functioning. The AUQ is an eight-item instrument that asks a subject to report whether he/she is experiencing an urge to drink and/or other drinking-related phenomena at the present time. The five-item PACS is a self-report measure that asks subjects to rate the intensity, frequency, and duration of their craving, and ability to resist acting on their craving for a stated period of time. The PACS also asks subjects to average their craving for the preceding week.

The Withdrawal Symptom Checklist (WSC), an unpublished scale, was administered in conjunction with the PACS at the pre-randomization visit and during study weeks 1, 2, and 3. The WSC is simply a list of 11 common alcohol withdrawal symptoms (e.g., nausea, vomiting, tremors) that is used at our Addiction Treatment Research Center. Subjects are asked to rate whether they are experiencing any of these symptoms and, if so, to rate the intensity of the experience on a scale of 0 to 6. The TLFB interview was also conducted during study weeks 1, 2, and 3. For each of these weekly interviews, subjects were asked to report the quantity and frequency of their daily drinking during the week before the interview.

### *Statistical Analysis*

To assess the internal consistency of PACS, Cronbach's $\alpha$-coefficient was computed. Pearson's product-moment correlation coefficients were computed to determine both convergent and discriminant aspects of construct validity. For predictive validity, a logistic regression analysis was used to examine the relations among PACS scores, study week 2 heavy drinking, and pretreatment heavy drinking on relapse status. Heavy drinking and relapse are defined as any occasion on which five or more standard drinks were consumed. The ability of the PACS to discriminate relapsers from nonrelapsers was tested via an analysis of variance and with paired $t$ tests.

## RESULTS

### *Sample Characteristics*

The ratio of men to women in the present sample was approximately 3 to 1, as was the ratio of Caucasian to African-American participants. Mean age was 47 years (SD = 12.3). Forty-two percent of the sample were currently married or remarried, whereas 58% were widowed, divorced, separated, or never married. The mean years of education was 13.8 (SD = 2.0). Fifty-three percent of subjects were in the mid-upper socioeconomic status as assessed by the Hollingshead Index. Subjects who had relapsed did not differ from those who had not relapsed with respect to gender, age, marital status, years of education, or socioeconomic status.

### *Drinking History*

The participants in the sample had an average of 18.3 years of alcohol use (SD = 11.4). The average number of standard drinks per drinking occasion during the 90 days before detoxification was 10.4 (SD = 8.6). Subjects drank on an average of 73% of the 90 days preceding study entry (SD = 29%). Sixty percent (SD = 32%) of these drinking days were classified as heavy drinking days (five or more drinks/day). Subjects had had an average of 1.2 (SD = 2.5) previous treatments for alcohol dependence. There were no differences between those who did not subsequently relapse and those who did, with respect to number of drinks per drinking day in the 90-day period before study entry, percent of drinking days, percent of heavy drinking days, or number of prior treatments for alcohol dependence.

**Table 1.** Correlations of Individual Items with Total Scores of the PACS ($n$ = 147)

| Item[a] | $r^b$ | $p$ |
|---|---|---|
| 1. How often have you thought about drinking or how good a drink would make you feel?[c] | 0.87 | <0.001 |
| 2. At its most severe point, how strong was your craving for alcohol? | 0.92 | <0.001 |
| 3. How much time have you spent thinking about drinking or how good a drink would make you feel? | 0.87 | <0.001 |
| 4. How difficult would it have been to resist a drink if you had known a bottle were in your house? | 0.80 | <0.001 |
| 5. Keeping in mind your response to the previous questions please rate your overall alcohol craving. | 0.92 | <0.001 |

[a] The time frame for each question is 1 wk.

[b] Pearson product-moment coefficient for correlation between item scores and total PACS scores for the pre-randomization visit.

[c] Items are rated on a 0–6 scale.

*Psychometric Characteristics of PACS*

*Reliability.* To determine the degree of cohesiveness of the PACS, we used the standard statistic, Cronbach's $\alpha$ coefficient, which assesses the degree to which each question is related to all other questions in the scale. The 0.92 Cronbach's $\alpha$ coefficient obtained from the pre-randomization PACS scores shows that the PACS possesses a high degree of internal consistency. As a further illustration of the PACS' high degree of cohesiveness, Table 1 lists the correlations between individual item scores and total PACS scores.

*Construct Validity and Discriminant Validity.* The moderate correlations obtained between pre-randomization total PACS scores, total OCDS scores ($r$ = 0.55, $df$ = 146, $p <$ 0.001), and AUQ scores ($r$ = 0.39, $df$ = 146, $p <$ 0.001) provide ample evidence for concurrent validity. There was a lack of relationship between pre-randomization PACS scores and ASI psychiatric composite scores ($r$ = 0.11, $df$ = 144, $p$ = 0.18), between pre-randomization PACS scores and ASI family/social composite scores ($r$ = −0.04, $df$ = 145, $p$ = 0.62) and between pre-randomization PACS scores and total DrInC scores ($r$ = 0.04, $df$ = 146, $p$ = 0.61). These results demonstrate that the PACS possesses good discriminant validity, in that the ASI composite scores assess psychiatric severity and interpersonal relationships, and the DrInC measures adverse events associated with alcohol dependence, whereas the PACS scale measures craving, a subjective state frequently associated with alcohol dependence.

*Predictive Validity.* To examine predictive validity, we looked at subjects' PACS scores for study week 2 and their relapse status for study weeks 3–12. The logistic regression analysis using week 3 PACS scores (which reflect study week 2 craving), percent days of heavy drinking during study week 2, and percent days of heavy drinking during the 90-day pretreatment period on subsequent relapse status demonstrated a significant relationship between study week 2 craving and relapse during study weeks 3–12 (Wald = 6.46, $df$ = 1, $p$ = 0.01). Table 2 shows the Wald statistics for the craving and drinking covariates as well as the odds ratios for all three variables. However, when we examined both pretreatment and week 2 total number of standard drinks with PACS scores using the same model, drinking rather than craving was significantly related to subsequent relapse (Week 2 drinking: Wald 4.81, $p$ = 0.02, Odds Ratio 1.13; Week 2 PACS scores: Wald 1.86, $p$ = 0.17, Odds Ratio 1.04). Degrees of freedom for these analyses differ from the other analyses, because there were 14 subjects who did not complete the study week 3 PACS (13 subjects missed the visit, and one subject dropped out of the study before the visit).

**Table 2.** Logistic Regression Analyses of Study Week 2 PACS Scores, Study Week 2 Drinking Activity, and Pretreatment Heavy Drinking on Weeks 3–12 Relapse Status ($n$ = 133)

| | WALD | $df$ | $p$ | Odds Ratio |
|---|---|---|---|---|
| Study week 2 PACS scores | 6.46 | 1 | 0.01 | 1.07 |
| Study week 2 drinking activity[a] | 0.41 | 1 | 0.52 | 0.82 |
| Pretreatment heavy drinking[b] | 1.87 | 1 | 0.17 | 0.44 |

[a] Study Week 2 drinking activity = percent days of heavy drinking (five or more drinks per day).

[b] Pretreatment heavy drinking = percent days of heavy drinking in the 90 days before entry into the study.

*Relationship to Relapse Status.* The mean PACS scores for all subjects were highest at the study week 0 (pre-randomization) assessment, and the scores for those who relapsed and those who did not relapse were approximately the same. Thereafter, scores decreased in a linear fashion, but the PACS scores for the group who subsequently relapsed were higher at each of the next three visits than scores for the group who did not relapse. ANOVAs on weekly scores revealed that these differences were significant [$F$(1,143) = 4.16, $p$ = 0.04; $F$(1,145) = 7.01, $p$ = 0.009; $F$(1,131) = 5.91, $p$ = 0.01, for PACS scores from study weeks 1, 2, and 3, respectively]. Fig. 1 illustrates the differences in mean PACS scores during weeks 0–3 for the two groups.

## DISCUSSION

The PACS possesses good psychometric properties. Its internal consistency, as assessed by Cronbach's $\alpha$ coefficient, is excellent. Both convergent and discriminant validities were also demonstrated via correlational analyses with two published craving scales (the OCDS and the AUQ) and two scales measuring other behaviors and subjective states associated with alcoholism (the ASI and the DrInC).

The relationship of earlier craving to subsequent relapse status was demonstrated by the differences in study weeks 1, 2, and 3 PACS scores of those who did and did not subsequently relapse during study weeks 3–12. Those who subsequently relapsed had significantly higher PACS scores than those who did not relapse at each of those three time points. The predictive validity of the PACS was established

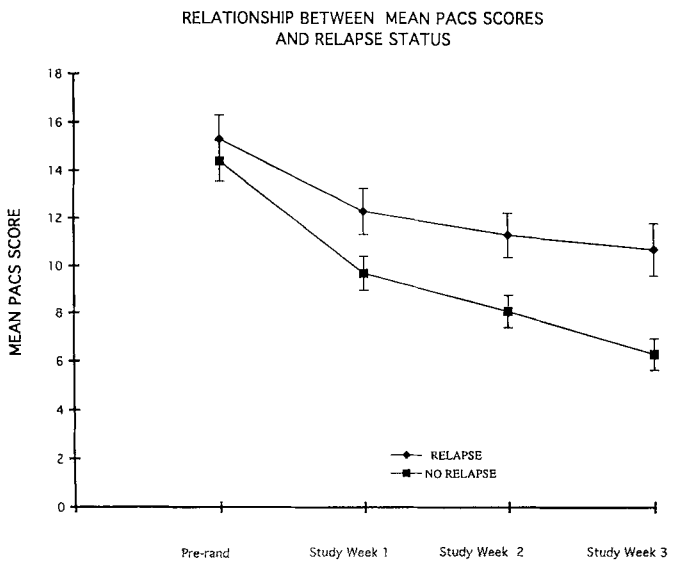


**Fig. 1.** Points represent the mean craving scores ± SEM for the initial four administrations of the PACS with respect to relapse status during study weeks 3–12 of the 12-week double-blind, placebo-controlled naltrexone trial. Squares are the mean PACS scores for subjects who relapsed during treatment; diamonds show the mean PACS scores for subjects who did not relapse. Each week's PACS score reflects cravings during the previous week.

via the significant relationship between study week 2 PACS scores and relapse status during study weeks 3–12.

The demonstration of a significant relationship between study week 2 craving and relapse is an exciting finding. To our knowledge, this is the first demonstration that there is a significant relationship between a self-reported assessment of craving at the beginning of treatment and relapse later in treatment. Our finding that craving predicts relapse, above and beyond pretreatment and current heavy drinking, also underscores the importance of continuing to explore this relationship for both treatment and research purposes.

The predictivity of the PACS for subsequent relapse may depend on how current drinking status is defined. For example, the PACS strongly predicts relapse in the presence of some ("percent days of heavy drinking") but not other ("number of standard drinks") drinking variables. The relationships among craving and various drinking and outcome variables are presently being investigated in our laboratory.

An understanding of the role that craving plays in relapse could prove a useful treatment tool. It is possible that craving is a less "reactive" measure, in that subjects may be more inclined to report their level of craving accurately, whereas they may prove susceptible to underestimating or "forgetting" the amount of alcohol they have consumed. In addition, craving may provide researchers with a useful predictor variable for treatment outcome studies.

Without categorizing craving as consisting of specific characteristics (i.e., as an appetitive or aversively driven motivational state), we have nonetheless shown that craving and relapse are strongly related. The data suggest that craving during treatment may be a more practical method for identifying those at risk for relapse during and possibly after treatment, than are indices of pretreatment heavy drinking or heavy drinking during treatment. The modest correlation between self-reported withdrawal symptoms (as assessed by the WSC) and relapse ($r = 0.14$, $df = 132$, $p = 0.07$) indicates that craving may be a phenomenon that is distinct from withdrawal, as opposed to a component of withdrawal. The PACS given in conjunction with the WSC may prove useful for discriminating craving, per se, from physiologically based withdrawal symptoms.

With the PACS, we believe that we may be getting a clearer and more direct expression of craving from the subject's point of view than that obtained from extant craving measures. Unlike the OCDS or the AUQ, the PACS does not confine craving to obsessions about drinking and compulsions to drink, or to how the person is feeling at the moment he/she is answering the questions. Rather, the individual is able to report about craving but does not have to report what craving means. Because the definition of craving, at present, differs among researchers, clinicians, and individuals seeking treatment (Pickens and Johanson, 1992; Sitharthan and Saunders, 1992), the theoretically neutral PACS may provide a useful method for assessing a poorly understood but important component of alcohol dependence.

Whereas we have attempted to remain theoretically neutral in constructing the PACS, it was impossible not to make a few basic assumptions about the nature of craving: that it is an internal state characterized by thoughts centered on drinking or drinking-related stimuli and that it can produce psychological and/or physiological arousal. One of the limitations of the PACS, as with any self-report measure of a subjective phenomenon, is that the PACS may not be accurately reflecting a person's internal state. It is possible that craving or specific subtypes of craving need to be explicitly defined in some manner so that individuals can determine whether they have or are experiencing craving. Including questions about affective states could help subjects connect specific emotional states, such as anxiety or elation, to their thoughts about drinking and urges to drink.

Another potential limitation of the PACS, as with other self-report measures, is that people may not be cognizant of their craving. If a person does not recognize thoughts about drinking, urges to drink, or conditioned arousal as components of craving, he or she would fail to report experiencing craving. Alternatively, a person could, in an attempt to reduce craving and drinking, be using techniques to cope with or reduce his/her drinking-centered thoughts and urges and fail to report accurately the extent of his/her craving.

The development of the PACS and demonstration of its psychometric soundness represents our preliminary step toward elucidating the phenomenon of craving and the relationship between craving and drinking. Although such a task is ambitious, we intend to continue exploring and

refining our understanding of craving, with the intent of aiding patients and clinicians in the understanding and treatment of alcohol dependence. In the future, we plan to examine the relation and/or interactions between craving and other demographic information, personality traits, and outcome variables. Such information would allow predictions about treatment outcomes and could foster the development of treatment programs that are more individually tailored. In the future, we intend to compare the predictive utility of the PACS directly to that of the OCDS and the AUQ. We also intend to examine the potentially reciprocal relationships between stress, anxiety, depression, and craving. Other avenues that may prove fruitful include: a detailed analysis of the inter-relationship between craving during the early and later stages of the post-withdrawal period, the role that conditioned cues play in eliciting craving, gender differences in craving, and pharmacotherapeutic and psychotherapeutic effects on craving.

## ACKNOWLEDGMENT

Many thanks to James McKay, Thomas McLellan, John Monterosso, and Gary Luck for helpful comments on the manuscript and statistical advice.

## APPENDIX 1

### PENN ALCOHOL CRAVING SCALE

*Circle the most appropriate number for each item.*

If this is the *first time* you are filling out this form, the questions apply to the last week that you drank any alcohol. If you received serax or another medication for detoxification, exclude that time period. If you are *currently participating in the medication trial,* these questions cover the time period from the day of your last visit to the day before your current visit.

1. How often have you thought about drinking or about how good a drink would make you feel during this period?
   - Never, that is, 0 times during this period of time. = 0
   - Rarely, that is, 1 to 2 times during this period of time. = 1
   - Occasionally, that is, 3 to 4 during this period of time. = 2
   - Sometimes, that is, 5 to 10 times during this period or 1 to 2 times a day. = 3
   - Often, that is, 11 to 20 times during this period or 2 to three times a day. = 4
   - Most of the time, that is, 20 to 40 during this period or 3 to 6 times a day. = 5
   - Nearly all of the time, that is, more than 40 times during this period or more than 6 times a day. = 6

2. At its most severe point, how strong was your craving during this period?
   - None at all. = 0
   - Slight, that is a very mild urge. = 1
   - Mild urge. = 2
   - Moderate urge. = 3
   - Strong urge, but easily controlled. = 4
   - Strong urge and difficult to control. = 5
   - Strong urge and would have drunk alcohol if it were available. = 6

3. How much time have you spent thinking about drinking or about how good a drink would make you feel during this period?
   - None at all = 0
   - Less than 20 minutes. = 1
   - 21–45 minutes. = 2
   - 46–90 minutes. = 3
   - 90 minutes–3 hours. = 4
   - Between 3 to 6 hours. = 5
   - More than 6 hours. = 6

4. How difficult would it have been to resist taking a drink during this period of time if you had known a bottle were in your house?
   - Not difficult at all. = 0
   - Very mildly difficult. = 1
   - Mildly difficult. = 2
   - Moderately difficult. = 3
   - Very difficult. = 4
   - Extremely difficult. = 5
   - Would not be able to resist. = 6

5. Keeping in mind your responses to the previous questions, please rate your *overall average* alcohol craving for the stated period of time.
   - Never thought about drinking and never had the urge to drink. = 0
   - Rarely thought about drinking and rarely had the urge to drink. = 1
   - Occasionally thought about drinking and occasionally had the urge to drink. = 2
   - Sometimes thought about drinking and sometimes had the urge to drink. = 3
   - Often thought about drinking and often had the urge to drink. = 4
   - Thought about drinking most of the time and had the urge to drink most of the time. = 5
   - Thought about drinking nearly all of the time and had the urge to drink nearly all of the time. = 6

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