

1996

The Connection between Cigarette Smoking and Suicidality

Dana Carole Perantie

Amy L. Copeland

Follow this and additional works at: https://digitalcommons.lsu.edu/honors_etd



Part of the [Psychology Commons](#)

Running head: SMOKING AND SUICIDALITY

The Connection between Cigarette Smoking and Suicidality

Dana C. Perantie and Amy L. Copeland

Louisiana State University

Abstract

Previous research indicates a correlation between cigarette smoking and suicidality, as measured by suicidal ideation, suicide attempts, and completed suicides. The present study sought to determine whether the correlation between cigarette smoking and suicidal ideation exists in a general population of college students. Several factors that may play a role in connecting suicidality to smoking were also investigated. These factors include the abuse of other substances, the presence of depression, other psychiatric disorders, or sub-clinical negative affect, beliefs about the harmful and beneficial effects of smoking, and attitudes towards the body. Two hundred fifteen Louisiana State University students completed questionnaires assessing these variables. A positive correlation between smoking and suicidality (as measured by 4 instruments) was found. Hierarchical regression analyses revealed that the smoking-suicidality correlation was independent of drug and alcohol use. Among smokers, suicidality predicted smoking rate above and beyond depression. Presence of psychiatric diagnosis predicted smoking rate, but not after suicidality was taken into account. Suicidal smokers rated positive outcomes of smoking higher than non-suicidal smokers did. Possible mechanisms for the connection between smoking and suicidality are discussed, with further research needed to investigate such mechanisms. Practical applications for identifying and helping people at risk for smoking and suicide are suggested.

The Connection between Cigarette Smoking and Suicidality

Cigarette smoking has been linked to severe illnesses, including cardiovascular disease, emphysema, and lung cancer. Smoking is presently the third leading cause of death in the United States and remains the most preventable cause of death (U.S. Department of Health and Human Services [USDHHS], 1989). Although the prevalence of cigarette smoking has gone down from 40% in 1965 to about 25% today, approximately 50 million Americans continue to smoke. (USDHHS, 1990). Indeed, cigarette use is increasing among young people in the U.S. and smoking rates among adults have not significantly declined throughout the last decade.

Recent studies suggest that individuals who remain smoking are not responding to standard smoking cessation treatments, and that they tend to be heavy smokers who may have psychiatric disorders (Brandon, 1994; Kalman, 1999). This comorbidity of smoking and psychiatric disorders has been well documented. For example, there is strong evidence that smoking is associated with schizophrenia, depression, anxiety disorders, alcoholism, and the abuse of illicit drugs (Breslau, 1995; Glassman, 1993; Hall, Muñoz, Reus, & Sees, 1993; Resnick, 1993). Nicotine dependent people with psychiatric disorders smoke for special reasons and find it more difficult to maintain abstinence from cigarettes (Brandon, 1994; Glassman 1993; Hall et al., 1993; Hughes, 1986; Lerman et al., 1996). Research on the connection between nicotine dependence and depression has yielded smoking cessation interventions tailored to people with a history of major depression as well as sub-clinical negative affect (defined as aversive emotional states, e.g. anxiety, sadness) (Brandon, Copeland, & Saper, 1995; Hall et al., 1993).

Smoking among individuals affected by depression or other psychiatric disorders has been described as a process of "self-medication" (Glass, 1990). The alleviation of negative

affect has been shown to be an important motivator to smoke (Brandon, 1994; Hall et al., 1993). This is consistent with the pharmacological action of nicotine, which is associated with the release of several neurotransmitters that may account for the experience of improved affect (Brandon, 1994).

Smoking and other substance abuse fall under the category of "self-destructive behaviors." Studies have shown strong positive relationships between chemical abuse, risk-taking behaviors, and suicidal behaviors. For example, one study found among a group of 114 persons seeking treatment for drug abuse, 57% had been involved in a car accident as the driver, 46% had given serious thought to committing suicide, and 19.2% had actually attempted to kill themselves (Daily, 1992). The detrimental social, financial, and physical consequences of alcohol and illicit drug use may account for the connection between these drugs and suicidal and risky behavior, in that the repercussions of using these drugs may be severe enough to make a person not want to live. The connection between suicidality and cigarette smoking is probably different than that between suicidality and other drugs, because smoking cigarettes does not result in such extreme social and/or legal consequences, and the health consequences tend to be long-term.

The use of harmful drugs has been conceptualized as a form of gradual suicide (Daily, 1992; Flavin, Franklin, & Frances, 1990). According to this theory, instead of engaging in overt, immediate forms of suicide such as wrist cutting or hanging, a person who is somewhat suicidal uses substances which he knows will eventually result in shortening his life.

Previous research points to a link between smoking and suicidality, as measured in various ways: ideation, attempts and completed suicides. In a 12-year study Hemenway, Solnick, and Colditz (1993) tracked the smoking habits and causes of death of over 120,000

registered female nurses. They found nurses who smoked 1 to 25 cigarettes per day were twice as likely and those who smoked more than 25 cigarettes per day were more than four times as likely to commit suicide as those who had never smoked. In another study, 3764 South Carolina high school students were surveyed, and cigarette use and degree of suicidal behavior were found to co-vary (Garrison, McKeown, Valois, & Vincent, 1993).

Studies involving psychiatric populations supply some evidence that increased suicidality among smokers is not due to the correlation between smoking and psychiatric disorders. Beratis, Lekka, and Gabriel (1997) found the mean number of cigarettes smoked among a group of suicide attempters to be significantly greater than for a group of psychiatric controls with matched diagnoses. At a Finnish psychiatric hospital, researchers found smokers were 100% more likely to have a history of at least one suicide attempt, and smokers were 43% more likely to experience suicidal ideation than non-smokers (Tanskanen, Viinamäki, Hintikka, Koivumaa-Honkanen, & Lehtonen, 1998).

Although the covariance of smoking and suicidality has been observed in several studies, no previous research investigated possible explanations for the connection. Some researchers suggested the association may be due to some "third factor" linked to both smoking and suicide, such as depression, alcoholism, or genetics, but until the present study was conducted, there was no empirical evidence to support or rule out the existence of a third factor. Furthermore, in each of the studies in which a correlation was found, a special population was selected: nurses, high school students (for whom cigarettes are illegal), and psychiatric patients. In the present study, we investigated the relationship between smoking and suicidality in a general population of college students and determined the roles several factors play in the connection between smoking and suicidality.

We tested the following hypotheses:

1. In the sample of college students, we predicted a positive correlation between smoking rate (cigarettes/day) and suicidal ideation. For the purposes of this study, the term “suicidality” refers to a gradient of suicidal thoughts and behaviors, as opposed to the presence or absence of suicidal ideation. Suicidality was measured by the Reasons for Living Inventory (RLI), the Beck Hopelessness Scale (BHS), the suicidal ideation subscale of the Beck Depression Inventory (BDI-II- item 9), and the Beck Scale for Suicidal Ideation (BSS).

2. Hemenway et al. (1993) suggested the strong correlation between smoking and incidence of suicide in their population might be due to the association of alcoholism and smoking, citing that "18% of alcoholics commit suicide." However, we predicted smoking would explain variance in suicidality above and beyond alcohol and drug use as measured by the Michigan Alcohol Screening Test (MAST) and the Drug Abuse Screening Test (DAST). Just as suicidal ideation is subtler and more common than suicidal behavior, smoking is a legal and more common form of substance abuse, in which the consequences are long-term rather than immediate as they are with other substances.

3. Consistent with previous research, we expected smoking rate to be correlated with depression as measured by the BDI-II. Because Beratis et al. (1997) found the correlation between smoking among suicide attempters to be independent of the frequency of psychiatric disorders, we predicted the correlation between smoking rate and suicidality would be independent of the correlation between smoking and depression. Similarly, we predicted the connection between smoking and suicidality to be independent of other self-reported psychiatric diagnoses. Because negative affect has been found to be an important motivator for smoking (Brandon, 1994; Hall et al., 1993), we expected those who rate high in sub-clinical negative

affect on the Positive and Negative Affect Schedule (PANAS) to be heavier smokers.

4. It is likely that motivation to self-medicate or self-harm with cigarettes would be reflected in the beliefs smokers have about the effects of smoking. Because we hypothesized that smokers with suicidal ideation are smoking to self-medicate and indirectly harm themselves, we predicted they would rate both positive and negative outcomes of tobacco use on the Smoking Consequence Questionnaire (SCQ-A; Copeland, Brandon, & Quinn, 1995) as more probable than their non-suicidal counterparts.

5. We predicted the attitude towards the body would also be relevant to the connection between suicide and cigarette smoking, because both behaviors involve at least an acceptance of harm to the body. Suicidal behavior and suicidal tendencies have been correlated with negative body images and feelings, lack of body care, and lack of body protection (Orbach & Mikulincer, 1998). We hypothesized a person with negative body-related behaviors and feelings would be more likely to smoke, because smoking is a behavior known to cause damage to the body. Accordingly, we predicted scores on the Body Investment Scale (BIS; Orbach & Mikulincer, 1998) to be inversely related to both smoking rate and suicidality.

Method

Participants

Two hundred fifteen smoking and nonsmoking undergraduates at Louisiana State University (LSU) completed the questionnaires and received credit for psychology courses. The first 205 participants were recruited as a general sample through a posted sign-up sheet, while participants 206-215 were recruited as “smokers only”, to increase smoker participation. Among the participants, we identified 106 nonsmokers, 10 ex-smokers, 50 daily smokers, and 49 infrequent smokers (those who smoke less than daily, but indicated weekly, monthly, or yearly

rate of smoking). Overall participant demographics are displayed in Table 1. Characteristics of smoking participants are shown in Table 2.

Instruments

Smoking Status Form. This form assesses demographics as well as current and past smoking patterns. As a measure of nicotine dependence it includes a version of the Fagerström Tolerance Questionnaire (FTQ) without the question on cigarette brand (Fagerström, 1978).

Background Questionnaire. This form requested the participant to report the existence of present psychiatric diagnosis and psychiatric history, and to specify past and present diagnoses. The form also included a question asking about participants' religion, with the option of not answering this question.

CO analysis. Breath samples were taken with a Vitalograph BreathCo portable CO monitor to verify smoking status. Smokers were identified as having a CO reading of greater than 10 parts per million.

Reasons for Living Inventory (RLI). The RLI (Linehan, Goodstein, Nielsen, & Chiles, 1983) is a 48-item survey assessing potential reasons for not committing suicide. The RLI has six subscales: survival and coping beliefs, responsibility to family, child concerns, fear of suicide, fear of social disapproval, and moral objections. Cronbach alpha for each subscale range from .72 to .92 (Range & Knott, 1997). The RLI was used as a measure of suicidality, with lower scores indicating greater suicidal ideation.

The Beck Hopelessness Scale (BHS). The BHS consists of 20 true/false items assessing hopelessness. Studies have shown the BHS has internal consistency of .93, test-retest reliability of .85, and it has been significantly correlated with suicide intent (Glanz, Haas, & Sweeney, 1995). In this study, the BHS was considered one measure of suicidality.

The Beck Scale for Suicidal Ideation (BSS). The BSS comprises five screening items and 21 test items developed to allow the administrator/scorer to conduct a more focused examination of a patient's suicidal intent. The five screening items reduce the length and the intrusiveness of the questionnaire for participants who are nonsuicidal. BSS total scores were used as a measure of suicidality.

The Beck Depression Inventory, 2nd Edition (BDI-II). The BDI-II will be used as a measure of depression, in order to determine whether the connection between smoking and suicidality is related to higher rate of depression among smokers. Item nine of the BDI-II was examined separately as a measure of suicidality.

The Positive and Negative Affect Schedule (PANAS). The PANAS (Watson, Clark & Tellegen, 1988) assesses positive affect (10 items) and negative affect (10 items) by using a 5-point Likert rating of adjectives. PANAS scores were assessed in order to determine if higher smoking rate among people with suicidal ideation is motivated by greater negative affect.

Smoking Consequences Questionnaire - Adult (SCQ-A). The SCQ-A (Copeland et al., 1995) contains 55 statements describing possible consequences of smoking cigarettes. The statements include positive and negative consequences, which may be immediate or delayed. Participants rate the likelihood of each statement occurring and their desirability for it to occur. The SCQ-A includes 10 scales: 1) Negative Affect Reduction; 2) Stimulation/State Enhancement; 3) Health Risks; 4) Taste/Sensorimotor Manipulation; 5) Social Facilitation; 6) Appetite/Weight Control; 7) Craving/Addiction; 8) Negative Physical Feelings; 9) Boredom Reduction; 10) Negative Social Impression. Coefficient alpha reliabilities are over .80 for each of the scales. For this study, likelihood ratings for the positive outcomes Negative Affect Reduction, Stimulation/State Enhancement, Taste/Sensorimotor Manipulation, and Boredom

Reduction were considered expectancies of self-medication, and likelihood ratings of the negative outcomes Health Risks and Negative Physical Feelings were considered expectancies of self-harm.

Michigan Alcoholism Screening Test (MAST). The MAST (Selzer, 1971) is a 25-item questionnaire designed to measure a history of problematic alcohol use. The MAST has a test-retest reliability of .84 and an internal consistency of .85 (Skinner & Sheu, 1982). MAST scores were assessed in order to determine if higher rates of smoking among people with suicidal ideation are due to the correlation between smoking and alcoholism.

Drug Abuse Screening Test (DAST). The DAST (Skinner, 1982) is a 28-item questionnaire designed to measure substance abuse history. The DAST has an internal consistency reliability of .92 and significantly discriminates substance abusers from nonabusers (Skinner, 1982). In this experiment, the DAST was used to determine if the connection between smoking and suicidality is related to higher frequency of drug abuse among smokers.

The Body Investment Scale (BIS). The BIS (Orbach & Mikulincer, 1998) is a 24-item questionnaire that assesses body-related attitudes, feelings, and behaviors with a 5-point Likert scale. The BIS has 4 factors (internal consistency ranging .75 to .92): image feelings and attitudes toward the body, body care, body protection, and comfort in touch. BIS scores were assessed to determine if negative attitudes toward the body are correlated with suicidality and smoking rate.

Procedure

After reading and signing consent forms, participants completed the Smoking Status Form, Background Questionnaire, RLI, BHS, BSS, BDI-II, PANAS, SCQ-A, MAST, DAST, and BIS. While participants completed forms, we collected and analyzed breath samples for CO

in order to verify self-reported smoking status.

Participants were given extra credit in psychology courses for taking part in this study. Due to the sensitive nature of some of the questionnaires, participants were given a list of resources that could be contacted to get help for depression or suicidal ideation if necessary.

Results

Suicidality & Smoking

In order to include infrequent smokers in our analyses, we calculated monthly rate of smoking. Monthly cigarette consumption correlated significantly with suicidality as measured by four instruments, as predicted. The number of cigarettes smoked monthly correlated most significantly with item nine of the BDI-II, $r(212) = .19, p = .002$. In subsequent analyses, we used BDI-II #9 as the measure of suicidality. All measures of suicidality were highly correlated with each other. Smoking rate and suicidality as measured by the BSS [$r(206) = .14, p = .02$] and the BHS, [$r(211) = .12, p = .05$] were positively correlated. As predicted, smoking rate and the RLI were negatively correlated, $r(205) = -.14, p = .02$ (a lower score on the RLI indicates greater suicidal ideation).

Drug & Alcohol Use, Smoking, & Suicidality

We conducted hierarchical regression analyses to determine whether the relationship between smoking and suicidality was independent of drug and alcohol use. Among smokers, monthly rate of smoking accounted for variance in suicidality above and beyond what could be accounted for by drug use as measured by the DAST. Cigarette smoking also explained more variance in suicidality than smokers' MAST scores. See Table 3 and Table 4 for regression summary statistics.

Mood, Psychopathology, Suicidality, & Smoking

Step-wise regressions were conducted to ascertain whether suicidality explained more variance in smoking than sub-clinical negative affect or depression. Suicidality predicted monthly smoking rate, while PANAS scores did not significantly predict smoking rate (See Table 5). Two regressions were done to determine the role of suicidality versus depression on smoking rate: One regression included all participants, and we found BDI-II scores predicted monthly smoking rate, while suicidality accounted for an amount of variance approaching significance, beyond depression (See Table 6). The second regression included smokers only, and depression did not account for a significant amount of variance in monthly smoking rate, but suicidality did explain variance in smoking rate (See Table 7).

We asked participants to report present or past psychiatric diagnoses, but many failed to respond to the item about past diagnosis (particularly those who indicated present diagnosis) or responded incorrectly. We therefore excluded the item regarding past diagnosis in the following analyses. An ANOVA with present diagnosis (present or absent) as the factor and smoking rate as the dependent variable was significant, whereby those participants with a present diagnosis smoked more (139.3 vs. 271.8 mean cigarettes per month), $F(1, 97) = 4.4, p < .05$. We then conducted an analysis of covariance (ANCOVA) with present diagnosis as the factor, BDI-II #9 as a covariate, and monthly smoking rate, and present psychiatric diagnosis was no longer predictive of smoking rate, $F(2, 95) = .71, ns$.

Suicidality & Smoking Expectancies

Among smoking participants, we created two subgroups by identifying those who endorsed BDI-II item #9 with a rating of “1” or above as suicidal and those who rated the item as “0” as non-suicidal. We conducted a one-way multivariate analysis of variance (MANOVA) with the suicidal variable created above as the factor, and the SCQ-A subscales,

Taste/Sensorimotor Manipulation, Negative Physical Feelings, Negative Affect Reduction, Boredom Reduction, Stimulation/State Enhancement, and Health Risks, as dependent variables. The MANOVA was significant, Wilk's $\lambda = .86$, $F(6, 85) = 2.31$, $p < .05$. Separate one-way analyses of variance (ANOVAs) were then conducted for each of the six SCQ-A scales. The suicidal participants had higher scores on the Negative Affect Reduction scale, (7.7 vs. 5.4), $F(1, 93) = 9.4$, $p < .01$, the Stimulation/State Enhancement scale (4.5 vs. 2.5), $F(1, 95) = 9.0$, $p < .01$, the Taste/Sensorimotor Manipulation scale (5.2 vs. 3.8), $F(1, 96) = 4.1$, $p < .05$, the Boredom Reduction scale (6.8 vs. 4.4), $F(1, 96) = 6.3$, $p < .05$, and There was a non-significant trend for the Health Risks scale (8.8 vs. 8.1), $F(1, 94) = 2.5$, $p = .11$, and there were no significant differences on the Negative Physical Feelings scale. See Figure 1 for a representation of the comparison of mean smoking outcome ratings.

Body Investment, Smoking, and Suicidality

Body investment as measured by the BIS was not correlated with smoking or suicidality. This was contrary to our expectation.

Discussion

As predicted, smoking and suicidality were positively correlated among the college students in this study. The relationship between suicidality and smoking could not be accounted for by drug or alcohol use. Depression was predictive of smoking rate among all participants, but suicidality was only marginally predictive of smoking when controlling for depression level. Among smokers, however, suicidality was predictive of smoking when controlling for depression level, and depression approached significance in accounting for variance in smoking. Sub-clinical negative affect did not predict smoking rate in this sample, contrary to what we predicted and previous findings.

Present psychiatric diagnosis predicted smoking rate, but when suicidality was taken into account, the connection between psychiatric diagnosis and smoking was no longer significant. We had several hypotheses attempting to reveal the mechanism of the connection between smoking and suicidality. We found that suicidal smokers rated positive outcome expectancies for tobacco higher than their non-suicidal counterparts. Body investment, however, was not related to smoking rate or suicidality in this sample. The relation between smoking and suicidality detected in this sample remained significant even when we controlled for substance abuse, depression, and other comorbid psychiatric disorders. These variables could not be considered as the “third factor” that accounts for the connection between smoking and suicidality, as previous researchers speculated. It is important to note, however, that although the relationship between smoking and suicidality appears to be independent of these factors, these variables remain important risk factors for suicide.

The correlation between smoking and suicidality was detected among college students in this study. This connection has now been found in a variety of populations, including high school students, nurses, psychiatric populations, and college students. The persistence of this relationship across several populations indicates that the effect is robust, but the mechanism that accounts for the connection may be different for each population. For example, although distal negative consequences of smoking were not significant among college student smokers, these factors may become significant for individuals who have been smoking long enough to experience the health consequences of cigarette smoking.

We measured smoking expectancies and body investment in an attempt to gain insight into the mechanism underlying the relationship between smoking and suicidality. Suicidal smokers rated positive outcomes of smoking (Negative Affect Reduction, Stimulation/State

Enhancement, Taste/Sensorimotor Manipulation, Boredom Reduction,) higher than non-suicidal smokers. This indicates suicidal smokers expect to receive greater benefit from smoking, and lends support to the hypothesis that suicidal smokers are self-medicating. Suicidal smokers rated the likelihood of Negative Physical Feelings the same as non-suicidal smokers. These immediate negative effects of smoking, such as burning throat and lung pain, do not appear to be relevant to the suicidality of a smoker. However, the long term negative effects such as heart disease, lung cancer, and shorter life were rated higher by suicidal smokers (the difference was marginally significant). A larger sample size with more daily smokers may detect what may be suicidal smokers' expectancy of self-harm.

There are several limitations that should be addressed in the present study. It is unclear to what degree these findings generalize to other populations, because we assessed college students in this study. It is important to understand the recent trend for increased smoking in college students, but when investigating possible mechanisms for the connection between smoking and suicidality, we should keep in mind that the impetus for smoking probably differs by age group. Gender also needs to be examined, and we plan to follow up with such analyses. Other limitations include the relatively few daily smokers we were able to recruit into the study and the relatively restricted range of psychiatric disorders present in this sample. That is, by definition, individuals enrolled in university curricula are generally a higher-functioning population than would be found in outpatient mental health clinics. In addition, we assessed for psychiatric disorder, but we did not have information about present pharmacological treatment among participants. Such treatments could certainly affect depression levels and/or smoking rates and reinforcement. Finally, recent evidence shows that genetic factors play a role in smoking/nicotine metabolism (Sabol et al., 1999). This combined with the existing knowledge

of possible genetic predisposition to mood disorders suggests that such factors need to be addressed in future studies.

Future studies are needed to address and clarify the mechanism by which smoking and suicidality are related, and how this information can be used to identify those at risk for smoking and suicidality, develop effective prevention strategies, and improve intervention efforts. The present data suggest that beliefs about smoking are an important factor in distinguishing suicidal smokers from non-suicidal smokers. Although there is strong evidence suggesting such beliefs exist in adolescents prior to smoking (Bauman & Chenoweth, 1984; Chassin, Presson, Sherman, & Edwards, 1991), and that these beliefs often change as a function of age and smoking experience (Copeland et al., 1995), there is little known about the point at which suicidal ideation and depressed mood become a relevant factor in this constellation. Longitudinal studies in which adolescents are followed over time and assessed in a prospective manner should help to elucidate the role that such cognitive factors play.

References

- Anda, R. F., Williamson, D. F., Escobedo, L. G., Mast, E. E., Giovino, G. A., & Remington, P. L. (1990). Depression and the dynamics of smoking. Journal of the American Medical Association, 264, 1541-1545.
- Bauman, K.E. & Chenoweth, R.L. (1984). The relationship between the consequences adolescents expect from smoking and their behavior: a factor analysis with panel data. Journal of Applied Social Psychology, 14, 28-41.
- Beratis, S., Lekka, N. P., & Gabriel, J. (1997). Smoking among suicide attempters. Comprehensive Psychiatry, 38, 74-79.
- Brandon, T. H. (1994). Negative affect as motivation to smoke. Current Directions in Psychological Science, 3, 33-37.
- Brandon, T. H., Copeland, A. L., & Saper, Z. L. (1995). Programmed therapeutic messages as a smoking treatment adjunct: reducing the impact of negative affect. Health Psychology, 14, 41-47.
- Breslau, N. (1995). Psychiatric comorbidity of smoking and nicotine dependence. Behavior Genetics, 25, 95-101.
- Buckley, P. F. (1998). Substance abuse in schizophrenia: a review. Journal of Clinical Psychiatry, 59, Suppl. 3, 26-30.
- Carmody, T. P. (1989). Affect regulation, nicotine addiction, and smoking cessation. Journal of Psychoactive Drugs, 21, 331-341.
- Chassin, L., Presson, C.C., Sherman, S.J., & Edwards, D.A. (1991). Four pathways to young adult smoking status: adolescent social-psychological antecedents in a midwestern community sample. Health Psychology, 10, 409-418.

Copeland, A. L., & Brandon, T. H. (in press). Testing the causal role of expectancies in smoking motivation and behavior. Addictive Behaviors.

Copeland, A. L., Brandon, T. H., & Quinn, E. P. (1995). The smoking consequences questionnaire-adult: measurement of smoking outcome expectancies of experienced smokers. Psychological Assessment, 7, 484-494.

Costa, P. T., McCrae, R. R., & Bosse, R. (1980). Smoking motive factors: a review and replication. International Journal of the Addictions, 15, 537-549.

Daily, S. G. (1992). Suicide solution: the relationship of alcohol and drug abuse to adolescent suicide. In G. W. Lawson & A. W. Lawson (Eds.), Adolescent substance abuse (pp. 233-249). Gaithersburg, MD: Aspen.

Fagerström, K. O. (1978). Measuring degree of physical dependence to tobacco smoking with reference to individualization of treatment. Addictive Behaviors, 3, 235-241.

Flavin, D. K., Franklin, J. E., & Frances, R. J. (1990). Substance abuse and suicidal behavior. In S. J. Blumenthal & D. J. Kupfer (Eds.), Suicide over the life cycle (pp. 303-340). Washington, DC: American Psychiatric Press.

Forman, S. G., & Kalafat, J. (1998). Substance abuse and suicide: promoting resilience against self-destructive behavior in youth. School Psychology Review, 27, 398-406.

Garrison, C. Z., McKeown, R. E., Valois, R. F., & Vincent, M. L. (1993). Aggression, substance use, and suicidal behaviors in high school students. American Journal of Public Health, 83, 179-184.

Glanz, L. M., Haas, G. L., & Sweeney, J. A. (1995). Assessment of hopelessness in suicidal patients. Clinical Psychology Review, 15, 49-64.

Glass, R. M. (1990). Blue mood, blackened lungs. Journal of the American Medical

Association, 264, 1583-1548.

Glassman, A. H. (1993). Cigarette smoking: implications for psychiatric illness.

American Journal of Psychiatry, 150, 546-553.

Glassman, A. H., Helzer, J. E., Covey, L. S., Cottler, L. B., Stetner, F., Tipp, J. E., & Johnson, J. (1990). Smoking, smoking cessation, and major depression. Journal of the American Medical Association, 264, 1546-1549.

Hall, S. M., Hall, R. G., & Ginsberg, D. (1990). Cigarette dependence. In A. S. Bellack, M. Hersen, & A. E. Kazdin (Eds.), Behavior modification and therapy (2nd ed., pp. 437-447). NY: Plenum Press.

Hall, S. M., Muñoz, R. F., Reus, V. I., & Sees, K. L. (1993). Nicotine, negative affect, and depression. Journal of Consulting and Clinical Psychology, 61, 761-767.

Hemenway, D., Solnick, S. J., & Colditz, G. A. (1993). Smoking and suicide among nurses. American Journal of Public Health, 83, 249-251.

Hughes, J. R., Hatsukami, D. K., Mitchell, J. E., & Dahlgren, L. A. (1986). Prevalence of smoking among psychiatric outpatients. American Journal of Psychiatry, 143, 993-997.

Ivanoff, A., Jang, S. J., Smyth, N. J., & Linehan, M. M. (1994). Fewer reasons for staying alive when you are thinking of killing yourself: the brief reasons for living inventory. Journal of Psychopathology and Behavioral Assessment, 16, 1-13.

Kalman, D. (1999). The challenge of pharmacotherapy. SRNT Newsletter, 5, 1-6.

Kandel, D. B., Johnson, J. G., Bird, H. R., Canino, G., Goodman, S. H., Lahey, B. B., Regier, D. A., & Schwab-Stone, M. (1997). Psychiatric disorders associated with substance use among children and adolescents: finding from the methods for the epidemiology of child and adolescent mental disorders (MECA) study. Journal of Abnormal Child Psychology, 25, 121-132.

Kumar, G., & Steer, R. A. (1995). Psychosocial correlates of suicidal ideation in adolescent psychiatric patients. Suicide and Life-Threatening Behavior, 25, 339-346.

Lerman, C., Audrain, J., Orleans, C. T., Boyd, R., Gold, K., Main, D., & Caporaso, N. (1996). Investigation of mechanisms linking depressed mood to nicotine dependence. Addictive Behaviors, 21, 9-19.

Linehan, M. M., Goodstein, J. L., Nielsen, S. L., & Chiles, J. A. (1983). Reasons for staying alive when you are thinking of killing yourself: The Reasons for Living Inventory. Journal of Consulting and Clinical Psychology, 51, 276-286.

Orbach, I., & Mikulincer, M. (1998). The body investment scale: construction and validation of a body experience scale. Psychological Assessment, 10, 415-425.

Patton, G. C., Hibbert, M., Rosier, M. J., Carlin, J. B., Cause, J., & Bowes, G. (1996). Is smoking associated with depression and anxiety in teenagers? American Journal of Public Health, 86, 225-230.

Quinn, E. P., Brandon, T. H., Copeland, A. L. (1996). Is task persistence related to smoking and substance abuse? The application of learned industriousness theory to addictive behaviors. Experimental and Clinical Psychopharmacology, 4, 186-190.

Range, L. M., & Knott, E. C. (1997). Twenty suicide assessment instruments: evaluation and recommendations. Death Studies, 21, 25-58.

Resnick, M. P. (1993). Treating nicotine addiction in patients with psychiatric co-morbidity. In C. T. Orleans, & J. Slade (Eds.), Nicotine addiction: principles and management (pp. 327-336). NY: Oxford University Press.

Revell, A. D., Warburton, D. M., & Wesnes, K. (1985). Smoking as a coping strategy. Addictive Behaviors, 10, 209-224.

Sabol, S. Z., Nelson, M. L., Fisher, L. G., Brody, C. L., Hu, S., Sirota, L. A., Marcus, S. E., Greenberg, B. D., Lucas, F. R., Benjamin, J., Murphy, D. L., & Hamer, D. H. (1999). A Genetic Association for Cigarette Smoking Behavior. Health Psychology, 18, 7-13.

Schwartz, A. J., & Whitaker, L. C. (1990). Suicide among college students: assessment, treatment, and intervention. In S. J. Blumenthal & D. J. Kupfer (Eds.), Suicide over the life cycle (pp. 303-340). Washington, DC: American Psychiatric Press.

Selzer, M. L. (1971). The Michigan Alcoholism Screening Test: The quest for a new diagnostic instrument. American Journal of Psychiatry, 127, 1653-1658.

Skinner, H. A. (1982). The drug abuse screening test. Addictive Behaviors, 7, 363-371.

Skinner, H. A., & Sheu, W. (1982). Reliability of alcohol use indices: The lifetime drinking history and the MAST. Journal of Studies on Alcohol, 43, 1157-1170.

Tanskanen, A., Viinamäki, H., Hintikka, J., Koivumaa-Honkanen, H., & Lehtonen, J. (1998). Smoking and suicidality among psychiatric patients. American Journal of Psychiatry, 155, 129-130.

U.S. Department of Health and Human Services (1989). Reducing the health consequences of smoking: 25 years of progress. A report of the Surgeon general. Rockville, MD: Author.

U.S. Department of Health and Human Services (1990). The health benefits of smoking cessation: A report of the Surgeon General. Rockville, MD: Author.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. Journal of Personality and Social Psychology, 54, 1063-1070.

Table 1. Characteristics of total sample.

N =	215
average age	20.8 (4.5)
sex: (n=)	
male	14.2%
female	85.8%
ethnicity:	
white/Caucasian	80.7%
African-American	8.5%
Asian	4.2%
other	6.6%
self-reported psychiatric diagnoses:	
Total	6.5%
ADHD	4
Bipolar disorder	2
Depression	3
Depression with other diagnosis	4
Dissociative Identity Disorder	1
BDI-II #9 >0 indicates suicidal ideation (n=)	24

Table 2. Characteristics of smokers.

	Daily Smokers	Infrequent Smokers	Ex-smokers
N =	50	49	10
Carbon Monoxide	8.9 (7.4)	2.5 (2.1)	2.2 (1.8)
Cigarettes per day	9.4 (6.5)		9.1 (8.9)
Cigarettes per month	281.1 (195.8)	17.4 (23.7)	
Years smoked	3.3 (2.7)		5.8 (8.9)
Fagerström Test for Nicotine Dependence	2.0 (1.6)		

Table 3. DAST Scores & Smoking Predict Suicidality

	R ²	Adjusted R ²	F	Standardized Beta Coefficients	Significance (p=)
Step 1: Drug abuse (DAST)	.08	.07	F(1, 95) = 7.96	.28	.01
Step 2: Drug abuse (DAST)	.17	.15	F(1, 94) = 10.17		
Monthly smoking rate				.20	.04
				.31	.00

Table 4. MAST Scores & Smoking Predict Suicidality

	R ²	Adjusted R ²	F	Standardized Beta Coefficients	Significance (p=)
Step 1: Alcohol abuse (MAST)	.05	.04	F(1, 90) = 4.45	.22	.04
Step 2: Alcohol abuse (MAST)	.11	.10	F(1, 89) = 7.23		
Monthly smoking rate				.18	.08
				.27	.01

Table 5. Suicidality Predicts Smoking, PANAS Does Not

	R ²	Adjusted R ²	F	Standardized Beta Coefficients	Significance (p=)
Step 1: Negative Affect (PANAS)	.01	.01	F(1, 209) = 2.46	.11	.12
Step 2: Negative Affect (PANAS)	.04	.03	F(1, 208) = 6.17		
Suicidality (BDI-II #9)				.06	.42
				.18	.01

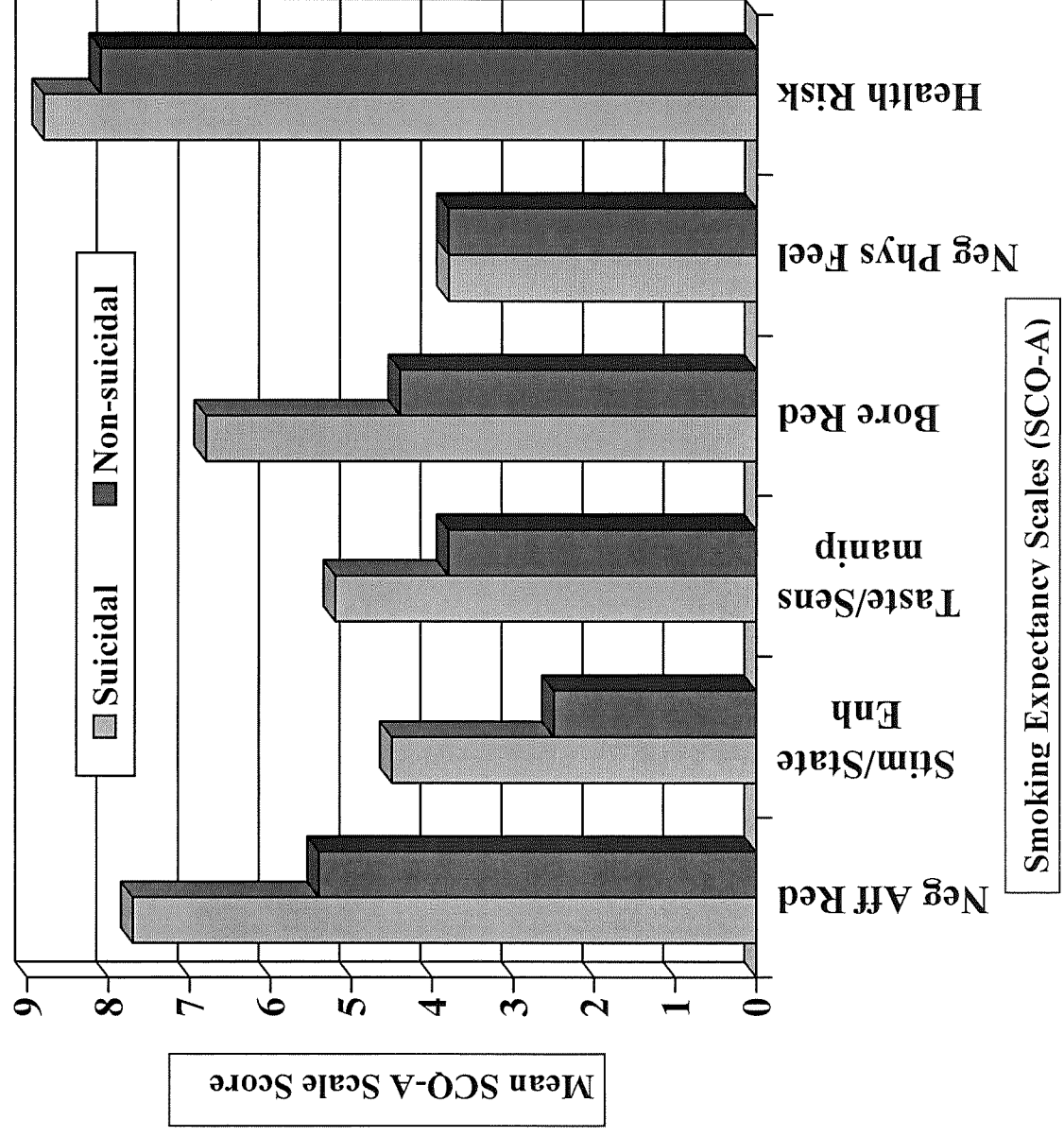
Table 6. Among All Participants, BDI-II Predicts Smoking Rate

	R ²	Adjusted R ²	F	Standardized Beta Coefficients	Significance (p=)
Step 1: Depression (BDI-II)	.04	.03	F(1, 209) = 7.91	.19	.00
Step 2: Depression (BDI-II)	.05	.04	F(1, 208) = 3.32	.13	.08
Suicidality (BDI-II #9)				.14	.07

Table 7. Among Smokers, Suicidality Predicts Smoking Rate

	R ²	Adjusted R ²	F	Standardized Beta Coefficients	Significance (p=)
Step 1: Depression (BDI-II)	.03	.02	F(1, 94) = 3.27	.18	.07
Step 2: Depression (BDI-II)	.13	.11	F(1, 93) = 10.16	-.05	.67
Suicidality (BDI-II #9)				.39	.00

Figure 1. Smoking Expectancies of Suicidal & Non-suicidal Smokers



Appendix A

Smoking Status Questionnaire

Date: _____

ID#: _____

1. Age: _____ 2. Sex: (circle one) MALE FEMALE

3. With which ethnic/racial group do you most identify yourself? (circle one)
a. Caucasian d. Hispanic
b. African-American e. other
c. Asian

4. Do you smoke cigarettes every day? (circle one) YES NO

(If YES, skip to question #8.

If NO, please answer only questions 5-7)

5. Have you ever smoked a cigarette? (circle one) YES NO

6. Did you ever smoke every day? (circle one) YES NO

If YES: 6a. How many years did you smoke? _____

6b. How long has it been since you stopped? _____

6c. When you were smoking daily, how many cigarettes per day did you usually smoke? _____

7. Do you ever smoke now? (circle one) YES NO

If YES: 7a. I smoke an average of _____ cigarettes per: (circle one)
a. week
b. month
c. year

8. How many years have you been smoking daily? _____

9. How many cigarettes per day do you smoke? _____

10. How soon after you wake up do you smoke your first cigarette? (circle one)
a. within 5 minutes
b. 6-30 minutes
c. 31-60 minutes
d. after 60 minutes

11. Do you smoke more frequently during the first hours after waking than during the rest of the day?
(circle one) YES NO

12. Which of all the cigarettes you smoke in a day would you most hate to give up? (circle one)
a. the first cigarette of the day
b. all others

13. Do you find it difficult to refrain from smoking in places where it is forbidden, e.g., in church, at the library, in the theatre, etc.?
(circle one) YES NO

14. Do you smoke if you are so ill that you are in bed most of the day?
(circle one) YES NO

Background Questionnaire

1. Do you presently have a psychiatric diagnosis? Circle one: Yes No

If yes, please specify: _____

2. Have you ever had a psychiatric diagnosis? Circle one: Yes No

If yes, please specify: _____

3. What is your religion? or you may circle: prefer not to answer

Reasons for Living Inventory

Instructions: A survey was conducted to learn more about the reasons why people do not kill themselves. The statements on the following pages represent the wide range of reasons that people gave.

Many people have thought of suicide at least once, others have never considered it. Whether you have considered it or not, we are interested in the reasons you would have for not committing suicide if the thought were to occur to you or if someone were to suggest it to you.

We would like to know how important each of these statements would be to you at this time in your life as a reason for you to not kill yourself. Please rate this in the space at the left on each question.

Each reason can be rated from 1 (Not At All Important) to 6 (Extremely Important). If a reason does not apply to you or if you do not believe the statement is true, then it is not likely important and you should put a 1. Please use the whole range of choices so as not to rate only at the middle (2,3,4,5) or only at the extremes (1,6).

In each space put a number to indicate the importance to you of each reason for not killing yourself.

1 = Not at all important (as a reason to not kill myself, or does not apply to me, I don't believe this at all)

2 = Quite unimportant

3 = Somewhat unimportant

4 = Somewhat important

5 = Quite important

6 = Extremely important (as a reason for not killing myself, I believe this very much and it is very important)

Even if you never have or firmly believe you never would seriously consider killing yourself, it is still important that you rate each reason. In this case, rate on the basis of why killing yourself is not or would never be an alternative for you.

Regardless of whether you agree or disagree with these statements, please try to think of them as possible reasons for not killing yourself and rate their importance to you from 1 to 6 on this basis.

- _____ 1. I have a responsibility and commitment to my family.
- _____ 2. I believe I can learn to adjust or cope with my problems.
- _____ 3. I believe I have control over my life and destiny.
- _____ 4. I have a desire to live.
- _____ 5. I believe only God has the right to end a life.
- _____ 6. I am afraid of death.
- _____ 7. My family might believe I did not love them.
- _____ 8. I do not believe that things get miserable or hopeless enough that I would rather be dead.
- _____ 9. My family depends upon me and needs me.
- _____ 10. I do not want to die.
- _____ 11. I want to watch my children as they grow.

- _____ 12. Life is all we have and is better than nothing.
- _____ 13. I have future plans I am looking forward to carrying out.
- _____ 14. No matter how badly I feel, I know that it will not last.
- _____ 15. I am afraid of the unknown.
- _____ 16. I love and enjoy my family too much and could not leave them.
- _____ 17. I want to experience all that life has to offer and there are many experiences I haven't had yet which I want to have.
- _____ 18. I am afraid that my method of killing myself would fail.
- _____ 19. I care enough about myself to live.
- _____ 20. Life is too beautiful and precious to end it.
- _____ 21. It would not be fair to leave the children for others to take care of.
- _____ 22. I believe I can find other solutions to my problems.
- _____ 23. I am afraid of going to hell.
- _____ 24. I have a love of life.
- _____ 25. I am too stable to kill myself.
- _____ 26. I am a coward and do not have the guts to do it.
- _____ 27. My religious beliefs forbid it.
- _____ 28. The effect on my children could be harmful.
- _____ 29. I am curious about what will happen in the future.
- _____ 30. I would hurt my family too much and I would not want them to suffer.
- _____ 31. I am concerned about what others would think of me.
- _____ 32. I believe everything has a way of working out for the best.
- _____ 33. I could not decide where, when, and how to do it.
- _____ 34. I consider it morally wrong.
- _____ 35. I still have many things left to do.
- _____ 36. I have the courage to face life.
- _____ 37. I am happy and content with my life.
- _____ 38. I am afraid of the actual "act" of killing myself (the pain, blood, violence).
- _____ 39. I believe killing myself would not really accomplish or solve anything.
- _____ 40. I have hope that things will improve and the future will be happier.
- _____ 41. Other people would think I am weak and selfish.
- _____ 42. I have an inner drive to survive.
- _____ 43. I would not want people to think I did not have control over my life.
- _____ 44. I believe I can find a purpose in life, a reason to live.
- _____ 45. I see no reason to hurry death along.
- _____ 46. I am so inept my method would not work.
- _____ 47. I would not want my family to feel guilty afterwards.
- _____ 48. I would not want my family to think I was selfish or a coward.



Date: _____

Name: _____ Marital Status: _____ Age: _____ Sex: _____

Occupation: _____ Education: _____

This questionnaire consists of 20 statements. Please read the statements carefully one by one. If the statement describes your attitude for the **past week including today**, darken the circle with a 'T' indicating TRUE in the column next to the statement. If the statement does not describe your attitude, darken the circle with an 'F' indicating FALSE in the column next to this statement. **Please be sure to read each statement carefully.**

- | | | |
|--|-------------------------|-------------------------|
| 1. I look forward to the future with hope and enthusiasm. | <input type="radio"/> T | <input type="radio"/> F |
| 2. I might as well give up because there is nothing I can do about making things better for myself. | <input type="radio"/> T | <input type="radio"/> F |
| 3. When things are going badly, I am helped by knowing that they cannot stay that way forever. | <input type="radio"/> T | <input type="radio"/> F |
| 4. I can't imagine what my life would be like in ten years. | <input type="radio"/> T | <input type="radio"/> F |
| 5. I have enough time to accomplish the things I want to do. | <input type="radio"/> T | <input type="radio"/> F |
| 6. In the future, I expect to succeed in what concerns me most. | <input type="radio"/> T | <input type="radio"/> F |
| 7. My future seems dark to me. | <input type="radio"/> T | <input type="radio"/> F |
| 8. I happen to be particularly lucky, and I expect to get more of the good things in life than the average person. | <input type="radio"/> T | <input type="radio"/> F |
| 9. I just can't get the breaks, and there's no reason I will in the future. | <input type="radio"/> T | <input type="radio"/> F |
| 10. My past experiences have prepared me well for the future. | <input type="radio"/> T | <input type="radio"/> F |
| 11. All I can see ahead of me is unpleasantness rather than pleasantness. | <input type="radio"/> T | <input type="radio"/> F |
| 12. I don't expect to get what I really want. | <input type="radio"/> T | <input type="radio"/> F |
| 13. When I look ahead to the future, I expect that I will be happier than I am now. | <input type="radio"/> T | <input type="radio"/> F |
| 14. Things just won't work out the way I want them to. | <input type="radio"/> T | <input type="radio"/> F |
| 15. I have great faith in the future. | <input type="radio"/> T | <input type="radio"/> F |
| 16. I never get what I want, so it's foolish to want anything. | <input type="radio"/> T | <input type="radio"/> F |
| 17. It's very unlikely that I will get any real satisfaction in the future. | <input type="radio"/> T | <input type="radio"/> F |
| 18. The future seems vague and uncertain to me. | <input type="radio"/> T | <input type="radio"/> F |
| 19. I can look forward to more good times than bad times. | <input type="radio"/> T | <input type="radio"/> F |
| 20. There's no use in really trying to get anything I want because I probably won't get it. | <input type="radio"/> T | <input type="radio"/> F |

Name: _____ Marital Status: _____ Age: _____ Sex: _____
 Occupation: _____ Education: _____

Instructions: This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the **one statement** in each group that best describes the way you have been feeling during the **past two weeks, including today**. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

1. Sadness

- 0 I do not feel sad.
- 1 I feel sad much of the time.
- 2 I am sad all the time.
- 3 I am so sad or unhappy that I can't stand it.

2. Pessimism

- 0 I am not discouraged about my future.
- 1 I feel more discouraged about my future than I used to be.
- 2 I do not expect things to work out for me.
- 3 I feel my future is hopeless and will only get worse.

3. Past Failure

- 0 I do not feel like a failure.
- 1 I have failed more than I should have.
- 2 As I look back, I see a lot of failures.
- 3 I feel I am a total failure as a person.

4. Loss of Pleasure

- 0 I get as much pleasure as I ever did from the things I enjoy.
- 1 I don't enjoy things as much as I used to.
- 2 I get very little pleasure from the things I used to enjoy.
- 3 I can't get any pleasure from the things I used to enjoy.

5. Guilty Feelings

- 0 I don't feel particularly guilty.
- 1 I feel guilty over many things I have done or should have done.
- 2 I feel quite guilty most of the time.
- 3 I feel guilty all of the time.

6. Punishment Feelings

- 0 I don't feel I am being punished.
- 1 I feel I may be punished.
- 2 I expect to be punished.
- 3 I feel I am being punished.

7. Self-Dislike

- 0 I feel the same about myself as ever.
- 1 I have lost confidence in myself.
- 2 I am disappointed in myself.
- 3 I dislike myself.

8. Self-Criticalness

- 0 I don't criticize or blame myself more than usual.
- 1 I am more critical of myself than I used to be.
- 2 I criticize myself for all of my faults.
- 3 I blame myself for everything bad that happens.

9. Suicidal Thoughts or Wishes

- 0 I don't have any thoughts of killing myself.
- 1 I have thoughts of killing myself, but I would not carry them out.
- 2 I would like to kill myself.
- 3 I would kill myself if I had the chance.

10. Crying

- 0 I don't cry anymore than I used to.
- 1 I cry more than I used to.
- 2 I cry over every little thing.
- 3 I feel like crying, but I can't.

11. Agitation

- 0 I am no more restless or wound up than usual.
- 1 I feel more restless or wound up than usual.
- 2 I am so restless or agitated that it's hard to stay still.
- 3 I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest

- 0 I have not lost interest in other people or activities.
- 1 I am less interested in other people or things than before.
- 2 I have lost most of my interest in other people or things.
- 3 It's hard to get interested in anything.

13. Indecisiveness

- 0 I make decisions about as well as ever.
- 1 I find it more difficult to make decisions than usual.
- 2 I have much greater difficulty in making decisions than I used to.
- 3 I have trouble making any decisions.

14. Worthlessness

- 0 I do not feel I am worthless.
- 1 I don't consider myself as worthwhile and useful as I used to.
- 2 I feel more worthless as compared to other people.
- 3 I feel utterly worthless.

15. Loss of Energy

- 0 I have as much energy as ever.
- 1 I have less energy than I used to have.
- 2 I don't have enough energy to do very much.
- 3 I don't have enough energy to do anything.

16. Changes in Sleeping Pattern

- 0 I have not experienced any change in my sleeping pattern.
- 1a I sleep somewhat more than usual.
- 1b I sleep somewhat less than usual.
- 2a I sleep a lot more than usual.
- 2b I sleep a lot less than usual.
- 3a I sleep most of the day.
- 3b I wake up 1-2 hours early and can't get back to sleep.

17. Irritability

- 0 I am no more irritable than usual.
- 1 I am more irritable than usual.
- 2 I am much more irritable than usual.
- 3 I am irritable all the time.

18. Changes in Appetite

- 0 I have not experienced any change in my appetite.
- 1a My appetite is somewhat less than usual.
- 1b My appetite is somewhat greater than usual.
- 2a My appetite is much less than before.
- 2b My appetite is much greater than usual.
- 3a I have no appetite at all.
- 3b I crave food all the time.

19. Concentration Difficulty

- 0 I can concentrate as well as ever.
- 1 I can't concentrate as well as usual.
- 2 It's hard to keep my mind on anything for very long.
- 3 I find I can't concentrate on anything.

20. Tiredness or Fatigue

- 0 I am no more tired or fatigued than usual.
- 1 I get more tired or fatigued more easily than usual.
- 2 I am too tired or fatigued to do a lot of the things I used to do.
- 3 I am too tired or fatigued to do most of the things I used to do.

21. Loss of Interest in Sex

- 0 I have not noticed any recent change in my interest in sex.
- 1 I am less interested in sex than I used to be.
- 2 I am much less interested in sex now.
- 3 I have lost interest in sex completely.

Date: _____

Subject #: _____

The PANAS

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way during the past week. Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

_____ interested

_____ irritable

_____ distressed

_____ alert

_____ excited

_____ ashamed

_____ upset

_____ inspired

_____ strong

_____ nervous

_____ guilty

_____ determined

_____ scared

_____ attentive

_____ hostile

_____ jittery

_____ enthusiastic

_____ active

_____ proud

_____ afraid

SCQ-A

Date: _____

Subject #: _____

Instructions: This questionnaire is designed to assess beliefs people have about the consequences of smoking a cigarette. We are interested in your general expectations about the consequences of your smoking. Below is a list of statements. Each statement contains a possible consequence of smoking. For each of the statements listed below, please rate how **LIKELY** or **UNLIKELY** you believe each consequence is for you when you smoke. If the consequence seems **LIKELY** to you, circle a number from 5-9. That is, if you believe that a consequence would never happen, circle 0; if you believe a consequence would happen every time you smoke, circle 9. Use the guide below to aid you further. For example, if a consequence seems completely likely to you, you would circle 9. If it seems a little unlikely to you, you would circle 4.

0	1	2	3	4	5	6	7	8	9
Completely		Very		A little	A little		Very		Completely
	Extremely		Somewhat			Somewhat		Extremely	

-----UNLIKELY-----X-----LIKELY-----

[illegible]

22. Smoking irritates my mouth and throat.	0	1	2	3	4	5	6	7	8	9
23. When I feel bored and tired, a cigarette can really help.	0	1	2	3	4	5	6	7	8	9
24. When I'm upset with someone, a cigarette helps me cope.	0	1	2	3	4	5	6	7	8	9
25. The more I smoke, the more I risk my health.	0	1	2	3	4	5	6	7	8	9
26. I enjoy the steps I take to light up.	0	1	2	3	4	5	6	7	8	9
27. I like the way a cigarette makes me feel physically.	0	1	2	3	4	5	6	7	8	9
28. Smoking is hazardous to my health.	0	1	2	3	4	5	6	7	8	9
29. I enjoy feeling the smoke hit my mouth and the back of my throat.	0	1	2	3	4	5	6	7	8	9
30. When I smoke, the taste is pleasant.	0	1	2	3	4	5	6	7	8	9
31. I like to watch the smoke from my cigarette.	0	1	2	3	4	5	6	7	8	9
32. When I am worrying about something, a cigarette is helpful.	0	1	2	3	4	5	6	7	8	9
33. I enjoy the taste sensations while smoking.	0	1	2	3	4	5	6	7	8	9
34. Cigarettes are good for dealing with boredom.	0	1	2	3	4	5	6	7	8	9
35. Smoking is taking years off my life.	0	1	2	3	4	5	6	7	8	9
36. I feel better physically after having a cigarette.	0	1	2	3	4	5	6	7	8	9

Michigan Alcoholism Screening Test

Circle one:

- | | | |
|-----|----|--|
| yes | no | 1. Do you feel you are a normal drinker? |
| yes | no | 2. Have you ever awakened the morning after some drinking the night before and found that you could not remember a part of the evening before? |
| yes | no | 3. Does your wife (or parents) ever worry or complain about your drinking? |
| yes | no | 4. Can you stop drinking without a struggle after one or two drinks? |
| yes | no | 5. Do you ever feel bad about your drinking? |
| yes | no | 6. Do friends or relatives think you are a normal drinker? |
| yes | no | 7. Do you ever try to limit your drinking to certain times of the day or to certain places? |
| yes | no | 8. Are you always able to stop drinking when you want to? |
| yes | no | 9. Have you ever attended a meeting of Alcoholics Anonymous? (AA)? |
| yes | no | 10. Have you gotten into fights when drinking? |
| yes | no | 11. Has drinking ever created problems with you and your wife? |
| yes | no | 12. Has your wife (or other family member) ever gone to anyone for help about your drinking? |
| yes | no | 13. Have you ever lost friends or girlfriends/boyfriends because of drinking? |
| yes | no | 14. Have you ever gotten into trouble at work because of drinking? |
| yes | no | 15. Have you ever lost a job because of drinking? |
| yes | no | 16. Have you ever neglected your obligations, your family, or your work for two or more days in a row because you were drinking? |
| yes | no | 17. Do you ever drink before noon? |
| yes | no | 18. Have you ever been told you have liver trouble? Cirrhosis? |
| yes | no | 19. Have you ever had delirium tremens (DTs), severe shaking, heard voices or seen things that weren't there after heavy drinking? |
| yes | no | 20. Have you ever gone to anyone for help about your drinking? |
| yes | no | 21. Have you ever been in a hospital because of drinking? |
| yes | no | 22. Have you ever been a patient in a psychiatric hospital or on a psychiatric ward of a general hospital where drinking was a part of the problem? |
| yes | no | 23. Have you ever been seen at a psychiatric or mental health clinic, or gone to a doctor, social worker, or clergyman for help with an emotional problem in which drinking had played a part? |
| yes | no | 24. Have you ever been arrested, even for a few hours, because of drunk behavior? |
| yes | no | 25. Have you ever been arrested for drunk driving or driving after drinking? |

Drug Abuse Screening Test

Circle one:

- | | | |
|-----|----|--|
| yes | no | 1. Have you used drugs other than those required for medical reasons? |
| yes | no | 2. Have you abused prescription drugs? |
| yes | no | 3. Do you abuse more than one drug at a time? |
| yes | no | 4. Can you get through the week without using drugs (other than those required for medical reasons)? |
| yes | no | 5. Are you always able to stop using drugs when you want to? |
| yes | no | 6. Do you abuse drugs on a continuous basis? |
| yes | no | 7. Do you try to limit your drug use to certain situations? |
| yes | no | 8. Have you had "blackouts" or "flashbacks" as a result of drug use? |
| yes | no | 9. Do you ever feel bad about your drug abuse? |
| yes | no | 10. Does your spouse (or parents) ever complain about your involvement with drugs? |
| yes | no | 11. Do your friends or relatives know or suspect you abuse drugs? |
| yes | no | 12. Has drug abuse ever created problems between you and your spouse? |
| yes | no | 13. Has any family member ever sought help for problems related to your drug use? |
| yes | no | 14. Have you ever lost friends because of your use of drugs? |
| yes | no | 15. Have you ever neglected your family or missed work because of your use of drugs? |
| yes | no | 16. Have you ever been in trouble at work because of drug abuse? |
| yes | no | 17. Have you ever lost a job because of drug abuse? |
| yes | no | 18. Have you gotten into fights because of drug abuse? |
| yes | no | 19. Have you ever been arrested because of unusual behavior while under the influence of drugs? |
| yes | no | 20. Have you ever been arrested for driving while under the influence of drugs? |
| yes | no | 21. Have you engaged in illegal activities in order to obtain drugs? |
| yes | no | 22. Have you ever been arrested for possession of illegal drugs? |
| yes | no | 23. Have you ever experienced withdrawal symptoms as a result of heavy drug intake? |
| yes | no | 24. Have you had medical problems as a result of your drug use (e.g. memory loss, hepatitis, convulsions, bleeding, etc.)? |
| yes | no | 25. Have you ever gone to anyone for help for a drug problem? |
| yes | no | 26. Have you ever been in hospital for medical problems related to your drug use? |
| yes | no | 27. Have you ever been involved in a treatment program specifically related to drug use? |
| yes | no | 28. Have you been treated as an out-patient for problems related to drug abuse? |

Appendix

The Body Investment Scale (BIS)

Instructions for Participants

The following is a list of statements about one's experience, feelings, and attitudes of his/her body. There are no right or wrong answers. We would like to know what your experience, feelings, and attitudes of your body are. Please read each statement carefully and evaluate how it relates to you by checking the degree to which you agree or disagree with it. If you do not agree at all: circle (1). If you do not agree: circle (2). If you are undecided: circle (3). If you agree: circle (4). If you strongly agree: circle (5). Try to be as honest as you can. Thank you for your time and cooperation.

1. I believe that caring for my body will improve my well-being	1	2	3	4	5
2. I don't like it when people touch me. (R)	1	2	3	4	5
3. It makes me feel good to do something dangerous. (R)	1	2	3	4	5
4. I pay attention to my appearance.	1	2	3	4	5
5. I am frustrated with my physical appearance. (R)	1	2	3	4	5
6. I enjoy physical contact with other people.	1	2	3	4	5
7. I am not afraid to engage in dangerous activities. (R)	1	2	3	4	5
8. I like to pamper my body.	1	2	3	4	5
9. I tend to keep a distance from the person with whom I am talking. (R)	1	2	3	4	5
10. I am satisfied with my appearance.	1	2	3	4	5
11. I feel uncomfortable when people get too close to me physically. (R)	1	2	3	4	5
12. I enjoy taking a bath.	1	2	3	4	5
13. I hate my body. (R)	1	2	3	4	5
14. In my opinion it is very important to take care of the body.	1	2	3	4	5
15. When I am injured, I immediately take care of the wound.	1	2	3	4	5
16. I feel comfortable with my body.	1	2	3	4	5
17. I feel anger toward my body. (R)	1	2	3	4	5
18. I look in both directions before crossing the street.	1	2	3	4	5
19. I use body care products regularly.	1	2	3	4	5
20. I like to touch people who are close to me.	1	2	3	4	5
21. I like my appearance in spite of its imperfections.	1	2	3	4	5
22. Sometimes I purposely injure myself. (R)	1	2	3	4	5
23. Being hugged by a person close to me can comfort me.	1	2	3	4	5
24. I take care of myself whenever I feel a sign of illness.	1	2	3	4	5

Note. R = scored in the reverse direction. Copyright 1998 by Israel Orbach and Mario Mikulincer.

Received January 23, 1998
 Revision received June 24, 1998
 Accepted July 30, 1998 ■



Date: _____

Name: _____ Marital Status: _____ Age: _____ Sex: _____

Occupation: _____ Education: _____

Directions: Please carefully read each group of statements below. Circle the one statement in each group that **best** describes how you have been feeling for the **past week, including today**. Be sure to read all of the statements in each group before making a choice.

Part 1

- 1** 0 I have a moderate to strong wish to live.
1 I have a weak wish to live.
2 I have no wish to live.
- 2** 0 I have no wish to die.
1 I have a weak wish to die.
2 I have a moderate to strong wish to die.
- 3** 0 My reasons for living outweigh my reasons for dying.
1 My reasons for living or dying are about equal.
2 My reasons for dying outweigh my reasons for living.

- 4** 0 I have no desire to kill myself.
1 I have a weak desire to kill myself.
2 I have a moderate to strong desire to kill myself.
- 5** 0 I would try to save my life if I found myself in a life-threatening situation.
1 I would take a chance on life or death if I found myself in a life-threatening situation.
2 I would not take the steps necessary to avoid death if I found myself in a life-threatening situation.

If you have circled the zero statements in both Groups 4 and 5 above, then skip down to Group 20. If you have marked a 1 or 2 in either Group 4 or 5, then open here and go to Group 6.

Part 2

<p>6 0 I have brief periods of thinking about killing myself which pass quickly.</p> <p>1 I have periods of thinking about killing myself which last for moderate amounts of time.</p> <p>2 I have long periods of thinking about killing myself.</p> <p>7 0 I rarely or only occasionally think about killing myself.</p> <p>1 I have frequent thoughts about killing myself.</p> <p>2 I continuously think about killing myself.</p> <p>8 0 I do not accept the idea of killing myself.</p> <p>1 I neither accept nor reject the idea of killing myself.</p> <p>2 I accept the idea of killing myself.</p> <p>9 0 I can keep myself from committing suicide.</p> <p>1 I am unsure that I can keep myself from committing suicide.</p> <p>2 I cannot keep myself from committing suicide.</p> <p>10 0 I would not kill myself because of my family, friends, religion, possible injury from an unsuccessful attempt, etc.</p> <p>1 I am somewhat concerned about killing myself because of my family, friends, religion, possible injury from an unsuccessful attempt, etc.</p> <p>2 I am not or only a little concerned about killing myself because of my family, friends, religion, possible injury from an unsuccessful attempt, etc.</p> <p>11 0 My reasons for wanting to commit suicide are primarily aimed at influencing other people, such as getting even with people, making people happier, making people pay attention to me, etc.</p> <p>1 My reasons for wanting to commit suicide are not only aimed at influencing other people, but also represent a way of solving my problems.</p> <p>2 My reasons for wanting to commit suicide are primarily based upon escaping from my problems.</p> <p>12 0 I have no specific plan about how to kill myself.</p> <p>1 I have considered ways of killing myself, but have not worked out the details.</p> <p>2 I have a specific plan for killing myself.</p>	<p>13 0 I do not have access to a method or an opportunity to kill myself.</p> <p>1 The method that I would use for committing suicide takes time, and I really do not have a good opportunity to use this method.</p> <p>2 I have access or anticipate having access to the method that I would choose for killing myself and also have or shall have the opportunity to use it.</p> <p>14 0 I do not have the courage or the ability to commit suicide.</p> <p>1 I am unsure that I have the courage or the ability to commit suicide.</p> <p>2 I have the courage and the ability to commit suicide.</p> <p>15 0 I do not expect to make a suicide attempt.</p> <p>1 I am unsure that I shall make a suicide attempt.</p> <p>2 I am sure that I shall make a suicide attempt.</p> <p>16 0 I have made no preparations for committing suicide.</p> <p>1 I have made some preparations for committing suicide.</p> <p>2 I have almost finished or completed my preparations for committing suicide.</p> <p>17 0 I have not written a suicide note.</p> <p>1 I have thought about writing a suicide note or have started to write one, but have not completed it.</p> <p>2 I have completed a suicide note.</p> <p>18 0 I have made no arrangements for what will happen after I have committed suicide.</p> <p>1 I have thought about making some arrangements for what will happen after I have committed suicide.</p> <p>2 I have made definite arrangements for what will happen after I have committed suicide.</p> <p>19 0 I have not hidden my desire to kill myself from people.</p> <p>1 I have held back telling people about wanting to kill myself.</p> <p>2 I have attempted to hide, conceal, or lie about wanting to commit suicide.</p>
<p>Go to Group 20.</p>	



<p>20 0 I have never attempted suicide.</p> <p>1 I have attempted suicide once.</p> <p>2 I have attempted suicide two or more times.</p>
<p>If you have previously attempted suicide, please continue with the next statement group.</p>
<p>21 0 My wish to die during the last suicide attempt was low.</p> <p>1 My wish to die during the last suicide attempt was moderate.</p> <p>2 My wish to die during the last suicide attempt was high.</p>

_____ Subtotal Part 2

_____ Total Score

 THE PSYCHOLOGICAL CORPORATION®
Harcourt Brace & Company
SAN ANTONIO

Copyright © 1991 by Aaron T. Beck. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or nay information storage and retrieval system, without permission in writing from the publisher.

BSS is a registered trademark of The Psychological Corporation

The Psychological Corporation and the PSI logo are registered trademarks of The Psychological Corporation. Printed in the United States of America.