PSYCHOMETRIC EVALUATION OF THE ADULT LIFE ADJUSTMENT INVENTORY SCHEDULE (ALAIS) FOR DEPRESSION

A THESIS SUBMITTED TO THE GRADUATE DIVISION OF THE
UNIVERSITY OF HAWAI'I IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

IN

PSYCHOLOGY

DECEMBER 2002

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Abstract

The purpose of this study was to develop and evaluate the psychometric properties of the Adult Life Adjustment Inventory Schedule (ALAIS) for use among young adults. The ALAIS is a multivariate assessment device for depression and its theoretical determinants that can be used in clinical and research settings to generate individual clinical profiles of depression, identify treatment target variables, investigate treatment effects, and develop evidence-based and variable-specific intervention protocols. A multicultural college sample of 231 students was used to evaluate the psychometric properties of the ALAIS. Results indicated strong internal consistency, temporal stability, and construct validity of the ALAIS among nonclinical young adults. Clinical applicability and future studies using the ALAIS are discussed.

TABLE OF CONTENTS

LIST OF TABLES

Psychometric Evaluation of the

Adult Life Adjustment Inventory Schedule for Depression

Individuals aged 15-19 and 25-29 have the highest probability of experiencing an onset of depression during any given year compared to individuals in other age groups (e.g., Burke, Burke, Rae, & Regier, 1991). In addition, reported age of onset of unipolar depression has been getting increasingly younger (Klerman & Weissman, 1989). Prospective studies also indicate that depressive episodes or subclinical symptoms during adolescence and young adulthood may progress into major depressive episodes, exacerbate the course and severity of symptoms, and increase risk for anxiety and substance-related disorders, in later adulthood (e.g., Ferdinand & Verhulst, 1995; Lewinsohn, Rohde, & Seeley, 1998; Lewinsohn, Rohde, Seeley, Klein, & Gotlib, 2000; Pine, Cohen, Cohen, & Brook, 1999; Pine, Cohen, Gurley, Brook, & Ma, 1998; Rao, Hammen, & Daley, 1999; Weissman et al., 1999). These studies suggest that late adolescence to young adulthood is a critical risk period for the onset of depression and that depressive episodes in turn may create a secondary risk for developing mental disorders in later adulthood.

Young adulthood features a unique series of life changing events and opportunities for psychological growth. As young adults attempt to transition from a family-dependent life toward a self-directed one, changes and adjustments are expected to occur across multiple domains of functioning such as physical, financial, emotional, interpersonal, and psychological. While young adults, compared to adolescents or older adults, may be less encumbered by family-dependent stress (e.g., familial discord,

parenting; Ingram, 2001), they may be more susceptible to life stressors related to establishing intimate relationships (e.g., Williams, Connolly, & Segal, 2001) and a professional identity. With newfound independence, however, young adults compared to adolescents may be more motivated to examine and take responsibility for causes and effects of events in their lives (e.g., Gamble, 1994). Concurrently, as suggested by Piaget's cognitive stage theory, young adults may be well into a cognitive stage (i.e., formal operational stage) that is conducive to exercising hypothetical and evaluative thought processes. These features of young adulthood suggest that while young adults may be vulnerable to stressor-related risks for depression, compared to adolescents, they may be more responsive to developing and practicing cognitive skills that are involved in therapeutic interventions for depression (e.g., Cognitive Behavior Therapy). Such developmental opportunities for acquiring therapeutic psychosocial skills appear promising, given earlier reports that underscore the need for treatment and prevention of young adult depression. While the need to simultaneously address treatment and prevention issues may not be exclusive to young adult depression, prospective findings indicate that addressing them during young adulthood, rather than later in life, may produce greater long-term preventive benefits.

In light of the high risk and onset rates for depression among young adults and the developmental features that make young adulthood an opportune time to address these concerns, this study set out to develop and test the psychometric adequacy of a clinical and research tool that could be useful in the delivery of evidence-based therapeutic interventions as well as in conducting outcome studies of such interventions for young

adult depression. The rationale for and potential benefits resulting from the use of such an assessment device in clinical and research settings are discussed below.

Rationale for the Development of a Multivariate Assessment Device for Depression

Decades of research have found unipolar depression to be heterogeneous in expression and etiology (e.g., Craighead, 1980, Barnett & Gotlib, 1988). Integrated theories (e.g., Gotlib & Hammen, 1992; Lewinsohn, Hoberman, Teri, & Hautzinger, 1985; Staats & Heiby, 1985) and multivariate methodologies (e.g. Alloy et al., 1999; Hurtado, Fernandez-Ballesteros, Montero, & Heiby, 1995; Dubanoski, Heiby, Kameoka, & Wong, 1996; Hurtado, Fernandez- Rao et al., 1999; Scheier & Botvin, 1997) have further tested and generated evidence that underscore the multidimensionality of determinants of depression and the heterogeneity of symptom expressions.

Research findings emerging from these studies, however, appear to have had minimal influence in clinical practice and outcome research. For example, the clinical diagnosis of depression is determined exclusively by the presence or absence of a number of symptoms (e.g., DSM-IV, clinician and self rated symptom checklists), rather than specified by hypothesized determinants of depression. Furthermore, existing treatment protocols, including empirically supported therapies (EST's), have been packaged and tested according to the diagnosis of depression, rather than in their ability to address the heterogeneous presentations of depression. The exclusive use of this diagnostic approach in treatment selection and delivery, as well as in conducting outcome research, appears incongruous to the wealth of evidence that suggest depression to have heterogeneous presentations and multiple determinants.

In fact, it has been argued that the exclusive use of diagnosis-based intervention strategies, including matching a clinical diagnosis to an appropriate treatment manual, may not be the most efficient approach to treatment delivery, given the diverse range of clinical profiles and therapeutic needs possible within a specific diagnostic group (e.g., Beutler & Baker, 1998; Bickman, 2002; Eifert & Wilson, 1991; Hammen, Rudolph, Weisz, Rao, & Burge, 1999; Persons, 1991). Since EST's are tested and identified using clinical samples that are homogeneous and not entirely representative of the heterogeneous clinical population seen in practice, selecting and delivering EST's exclusively based on a diagnosis may not address the diverse range of clinical needs. In fact, an assessment process that simply derives a diagnosis may not be sufficient in providing the full clinical picture of a client's therapeutic needs (e.g., Beutler & Baker, 1998; Hammen, Rudolph, Weisz, Rao, & Burge, 1999).

Improvement of idiographic treatment delivery. Various suggestions have been made in efforts to translate outcome research findings into clinically relevant data that would address the diverse range of individual clinical needs. Assessing the variability of treatment effects across individuals (e.g., Jacobson, Follette, & Revenstorf, 1984), identifying variables that mediate treatment outcome (e.g., Shadish & Sweeney, 1991; Weersing & Weisz 2002a), as well as examining nonspecific treatment effects across various theoretically-oriented treatment models and client profiles (e.g., Persons, 1991; Rehm, 1995) have been proposed as steps toward translating nomothetic outcome results into practice relevant data. Investigators also have suggested innovative methods to individualize treatment delivery, such as the use of an integrated framework for

conducting functional analysis (e.g., paradigmatic behavior therapy; Eifert, Evans, & McKendrick, 1990) and the development of algorithms to facilitate versatility in the way evidence-based treatment procedures are selected and delivered to meet a client's therapeutic needs (Chorpita, Barlow, Albano, & Daleiden, 1998). Generating individual clinical profiles that could subsequently yield subgroup clinical profiles also has been suggested to improve the way EST's are delivered across individuals and groups (e.g., Donenberg, 1999).

To improve treatment effectiveness across settings and individuals, these strategies commonly emphasize the need to assess treatment-relevant client data, in addition to conducting diagnostic evaluations. Whether attempting to deliver an EST to a client, conducting a complex outcome study, identifying pathways to treatment outcome, or developing innovative strategies for treatment selection and delivery, variables that influence treatment effects need to be identified and monitored in order to facilitate such endeavors.

In a clinical setting, identifying variables that produce treatment effects in a depressed client may likely require assessment of variables that are hypothesized to maintain and alleviate depression. Therapeutically targeting these hypothesized variables may be one way to address treatment and prevention issues simultaneously. Such variables for depression might include those that studies consistently have found to be significantly related to the presence or absence of depression. By assessing such variables as well as depressive symptoms, a clinical profile of not only depression but also one's assets or deficits in relation to variables that are hypothesized to maintain

and/or alleviate depression, may be generated. Such evidence-based individual clinical profiles have the potential to improve specification of treatment and prevention strategies at an individual level.

Although generating an individual clinical profile, or idiographic case formulation, to individualize treatment delivery is not a new clinical practice, such an approach has been criticized for being associated with the use of subjective and flawed clinical judgments (e.g., Dawes, Faust, & Meehl, 1989; Wilson, 1996). In addressing these criticisms, an empirical approach (e.g., Dawes et al., 1989) to clinical assessment would minimize the practice of applying clinician's subjective decision rules in generating idiographic clinical profiles. For example, a clinical assessment device can be actuarial in content (e.g., selection of variables and measures that have empirical support for their association with a particular psychopathology) and process (e.g., interpretation of results are derived from decision rules based on inferential statistical analyses), and thus minimize reliance on subjective clinical judgments. A systematic assessment device, then, would not only facilitate an evidence-based assessment approach to treatment delivery, but could also be used to collect objective data to monitor benefits and outcomes resulting from the use of such an approach to treatment delivery.

Benefits as a clinical tool. An individual clinical profile may be used to select appropriate evidence-based intervention protocols to target specific areas for treating depression. Based on the individual's identified strengths that are hypothesized to alleviate as well as deficits that are hypothesized to maintain a client's experience of depressive symptoms, various components of EST's and/or evidence-based skill training

protocols may be selected to efficiently address such treatment targets. Additionally, such a prescriptive strategy to treatment delivery based on the profile generated from an assessment device could be one means to adapt nomothetically efficacious treatment manuals to meet idiographic therapeutic needs.

In some instances, addressing a depressed client's specific strengths and deficits has an additional advantage of addressing issues related to diagnostic complications. When a client, for example, presents clinical symptoms that do not neatly fit discrete diagnostic criteria for a depressive disorder yet affect daily functioning (e.g., Depressive Disorder, Not Otherwise Specified), assessing hypothesized determinants, rather than subclinical symptoms, may be essential for identifying specific therapeutic needs. In addition, given that there are determinants that are common to both depression and anxiety (e.g., control related variables), assessing those common resources and deficits may provide one method of identifying treatment needs for those who are experiencing clinical levels of distress resulting from mixed anxiety and affective disturbances, yet do not meet diagnostic criteria for either type of disorder (e.g., "mixed anxiety-depression"; Zinbarg & Barlow, 1991). Such a prescriptive approach to assessment would also be beneficial for those who have comorbid diagnoses of anxiety and depressive disorders. Given that depression and anxiety disorders share overlapping symptoms (e.g., Generalized Anxiety Disorder and unipolar depressive disorders; Barlow, Di Nardo, Vermilyea, Vermilyea, & Blanchard, 1986; Riskind et al., 1991), identifying treatment-relevant variables beyond diagnostic symptoms appear particularly important for these subtypes of clients who exhibit clinical features of anxiety and depressive disorders. The

task of identifying treatment needs for compounded features or comorbid diagnoses would be limited, however, to assessing those variables that are found to be common and significant determinants of both depression and anxiety (e.g., control related variables, stressors, negative affect). Evidence for these or other benefits resulting from the use of an individual clinical profile to individualize treatment delivery may become more salient as such profile generating devices are included in future outcome studies.

Benefits as a research tool. An objective device that can generate clinical profiles would provide heuristic benefits that are often not provided by other idiographic approaches that have limited external validity (e.g., functional analysis, idiographic case formulation based on clinical judgment). Treatment progress data collected using an objective assessment device provide the means to conduct empirical research such as studies on the mediating effects of variable(s) on symptom reduction, identifying specific pathways to treatment outcome, or interaction effects among variables that produce treatment outcomes. Results from such studies in turn may contribute to the refinement of existing treatment models, the development of evidence-based, variable-specific interventions, as well as the development of systematic strategies to select and plan interventions that efficiently meet therapeutic needs.

Development of a Multivariate Assessment Device

Based on the rationale and potential benefits discussed above, the purpose of this study was to develop a low cost comprehensive self-report assessment device that is psychometrically sound and capable of generating individual clinical profiles of depression and its determinants. Such a device would be useful for: (1) identifying and

describing depression and potential risks for depression in individuals and groups; (2) identifying target variables and prioritizing area(s) for treatment focus; (3) collecting data in outcome investigations on variables that produce treatment effects; and (4) developing evidence-based and variable-specific (deficits and strengths) intervention protocols. These specific applications in turn would enhance the relationship between clinical practice and research.

Conceptual framework of the ALAIS. The Adult Life Adjustment Inventory Schedule (ALAIS; Lee, 2000) is a comprehensive self-report assessment device for depression and its theoretical determinants designed for use among young adults. The ALAIS (Appendix A) is modeled on the Elder Life Adjustment Interview Schedule for depression (ELAIS; Dubanoski et al., 1996; Heiby, Dubanoski, & Kameoka, in press; Schlatter, Heiby, Dubanoski, Kameoka, & Denny, 1993; Wong, Heiby, Kameoka, & Dubanoski, 1999), whose theoretical framework and psychometric strengths are desirable for adaptations across other populations. The ALAIS, consistent with the ELAIS, was developed based on the paradigmatic behavioral model of depression (Heiby & Staats, 1990), an integrated model that describes and explains human behavior in terms of interactions between situational, language-cognitive, emotional-motivational, sensory-motor, and organic variables, that vary across individuals according to their learning history.

Consistent with the ELAIS, the theoretical determinants of depression measured by the ALAIS represent situational, behavioral, cognitive, and health domains. The four domains were used to conceptually organize empirically supported determinants of

depression and do not represent discrete, empirically derived domains. Theoretical determinants of depression assessed by the ALAIS are hypothesized to maintain and/or alleviate depressive symptoms and the empirical support for these variables are summarized below.

Determinants of Depression Assessed by the ALAIS

Situational domain: Stressful life events. Acute and chronic stressful life events have been shown to play long- and short-term roles in the onset of depression. Cognitive theories posit environmental stressors as triggers in the development of depressive episodes among cognitively vulnerable individuals (e.g., Abramson, Seligman, & Teasdale, 1978; Beck, 1976). Recent studies have shown that daily stressors, as well as major life events, can precipitate the onset of a depressive episode (e.g., Cui, & Vaillant, 1996; Stader & Hokanson, 1998). Stressful life events can also precipitate and maintain dysphoria by interacting with mood, judgment, and social support (Tesser & Beach, 1998). In addition, physiological evidence from pre-clinical and clinical studies suggest that acute and chronic stress may lead to the development of a biological predisposition to subsequent depressive episodes by inducing persistent endocrinal and neuronal adjustments (for a review, see Arborelius, Owens, Plotsky, & Nemeroff, 1999; Graeff, Guimaraes, De Andrade, & Deakin, 1996), as well as by creating sensitizations (i.e. lowering the threshold for its activation) of the neurological mechanisms (e.g., Post & Weiss, 1998) and cognitive processing patterns (e.g., Segal, Williams, Teasdale, & Gemar, 1996) associated with symptomatic behaviors. These findings indicate that

environmental stressors of all magnitude and frequency are important in predicting and explaining individual depression.

Situational domain: Social support. Lack of social support has been found to be significantly related to current depression among college students (e.g., Beeber, 1999). Among the clinically depressed, lack of social support was found to significantly predict both illness progression and treatment outcome, even after controlling for initial depression severity (Lara, Leader, & Klein, 1997). Interpersonal theorists have hypothesized that lack of social support results from social skills deficits in depressed individuals (e.g., Coyne, 1976a). Also, Lewinsohn (1974) hypothesized that inadequate social support contributes to the onset of depression by depleting one's important source of positive reinforcements. These theorists posit inadequate levels of social support as a consequent of social skills deficits.

Recently, studies have assessed different aspects of social support, such as structural and functional support, to further elucidate the relationship between social support and depression. For example, a meta analysis with 52 effect sizes showed that the strength of association between depression and social support was significantly greater when social support was measured by ratings of perceived available social support, a functional aspect, compared to frequency ratings of actual support received (Finch, Okun, Pool, & Ruehlman, 1999). Another study found that structural support affects depression indirectly by facilitating opportunities for functional support (Lin, Ye, & Ensel, 1999). Both studies converged on the importance of perceived functional support over actual support received in predicting depression. These findings suggest

that social support should be assessed by measuring the effects of its functionality (e.g., perceived availability of support) across relevant structural sources of support (e.g., family, friends, and significant other).

Situational domain: Negative social interaction. Negative social interaction, as measured by the frequency of such interactions, was found to significantly correlate with depression, independent of social support deficits (Finch et al., 1999). This relationship may be especially important in groups that require heavy, daily social interactions, such as the young adult college population. Components of negative social interactions include interference, insensitivity, ridicule, and hostility/impatience (Ruehlman & Karoly, 1991), most of which have been found to be associated with clinical symptoms of depression and relationship difficulties, particularly among depressed women (e.g. Coyne, 1988).

Behavioral domain: Activity level. Recreational and aerobic activities were found to have direct and indirect associations with depression. While low involvement in recreational activities has been associated with depression severity (e.g., Farmer et al., 1988), studies on the role of aerobic exercise regimen in mediating the effects of stress on depression have produced mixed results (e.g., Steptoe, Kimgell, & Basford, 1998).

Behavioral domain: Social skills. Social skills deficits have been shown to debilitate social functioning and increase depressive symptoms (Youngren & Lewinsohn, 1980). Social skills deficit, as a construct, has been suggested to be multidimensional with each component differentially affecting distress (e.g. Riggio, 1986) and playing a diverse role as a concomitant, antecedent, or consequent of depression (Cole & Milstead,

1989; Coyne, 1976a; Lewinsohn, 1974; Segrin, 1993). Deficiency in the assertiveness component of social skills, along with self-reinforcement deficits and increased negative life events, have been found to account for a significant 36% of the variance in depression (Hurtado et al., 1995).

Behavioral domain: Self-Reinforcement. Low frequency of self-reinforcement has been demonstrated to be a significant correlate of depression in adult (Heiby, 1983a; Rehm, 1977; Wilkinson, 1997), outpatient clinical and subclinical (Hurtado et al., 1995), adolescent (Scheier & Botvin, 1997), and female prison (Varese, Pelowski, Riedel, & Heiby, 1998) populations. Studies have found self-reinforcement to be a behavioral skill that can be effectively learned in group sessions (Heiby, Ozaki, & Campos, 1984), and as part of a depression treatment regimen (Heiby, & Staats, 1990; Rokk, Tomhave, & Jocic, 2000). In addition, therapeutically increasing the frequency of self-reinforcement has been shown to alleviate depressive symptoms in an individualized clinical setting (Heiby, 1986).

Cognitive domain: Perceived control. Perceived control has been shown to significantly correlate with depression in a multicultural community sample (e.g., Dubanoski et al., 1996) and predict depression levels five months subsequent to initial assessment among Caucasian elders (Wong et al., 1999). Additionally, perceived control has been hypothesized to mediate self-efficacy and perceived outcome expectancies, thus indirectly affecting the onset of dysphoria (Anderson & Arnoult, 1985; Kanfer & Zeiss, 1983).

Cognitive domain: Cognitive self-efficacy. Cognitive self-efficacy represents one's appraisal of his or her ability to practice cognitive control over internal events, including thoughts and affect. The lack of self-efficacy in achieving a specific desired goal has been shown to predict dysphoria even when initial levels of depression, stressors, and social support were statistically controlled (Olioff, Bryson, & Wadden, 1989). Perceived competence to achieve cognitive control in regulating mood has been shown to predict positive depression treatment outcome as well as relapse rate up to 15 months post-treatment (Kavanaugh & Wilson, 1990). These findings suggest that one's ability to control and prevent persistent negative thoughts may serve as a partial defense against depression and predict treatment outcome.

Cognitive domain: Dysfunctional achievement attitude. According to Beck's cognitive model of depression (1976), dysfunctional attitude is a causal diathesis that precipitates the onset of a depressive episode when triggered by a stressor. Studies using the Dysfunctional Attitude Scale (DAS; Weissman & Beck, 1978) have found dysfunctional attitude to be significantly correlated with depressive symptoms in students (e.g., Dobson & Breiter, 1983), psychiatric inpatients (Zimmerman, Coryell, Corenthal, & Wilson, 1986), and women inmates (Varese et al., 1998). Of the multiple factors underlying the DAS, the perfectionistic achievement factor has been suggested to be an important correlate of depression among college samples (Brown, Hammen, Craske, & Wickens, 1995; Cane et al., 1986; Joseph & Lewis, 1998). Moreover, perfectionism (e.g., elevated autonomic/perfectionism subscale score of the DAS) has been shown to predict poorer response to cognitive, interpersonal, and antidepressant therapies in adults

(Blatt, Quinlan, Pilkonis, & Shea, 1995; Peselow, Robins, Block, Barouche, & Fieve, 1990; Sotsky et al., 1991; Zuroff, et al., 2000). Also, scores of selected items from the perfectionistic achievement factor were found to be significantly higher among adolescents with a history of major depression, compared to those without, even when the analysis excluded currently depressed adolescents (Lewinsohn, Allen, Seeley, & Gotlib, 1999). The latter finding suggests that dysfunctional achievement attitude may be a persistent determinant of depression that may predict a recurrence of an episode by being a detectable correlate even during asymptomatic periods.

Health domain: Perceived health. Perceived health has not been well tested as a predictor of depression among young adults. Results of a longitudinal study, however, indicated that young adults with previous depressive episodes were more than twice as likely (44.9% compared to 18.9%) to be hospitalized for medical needs compared to healthy counterparts (Weissman et al., 1999). Thus, it is expected that perceived health will be significantly associated with depression among young adults.

Health domain: Alcohol consumption. Comorbidity between depression and alcohol abuse and dependence has been widely acknowledged across clinical, adolescent, and female populations (e.g., DeMilio, 1989; Petty, 1992; Weiss & Griffin, & Mirin, 1992). Noel and Lisman (1980) studied the relationship between drinking patterns and depression among college students using a depression analogue of a problem solving task. Results indicated that among female college students, self-reported "heavy drinkers" (e.g., five or six drinks in a sitting, nearly everyday) had significantly higher depression scores, above 14 on the BDI (Beck, 1967), compared to "light drinkers" (e.g.,

one or two drinks, nearly everyday). Males with higher depression scores were distributed indiscriminately across groups of light, moderate, and heavy drinkers. These findings suggest that a pattern of heavy alcohol intake may be a predictor of depression and may escalate levels of both depression and alcohol use, particularly among women.

Mental health history. Exposure to parental depression and/or alcoholism has been suggested to play a role in young adult depression (e.g., Chassin, Pitts, DeLucia, & Todd, 1999; Durbin, Klein, & Schwartz, 2000; Gotlib & Hammen, 1992; Jarmas & Kazak, 1992) and adolescent depressed moods have been shown to be predictive of young adult depression (e.g., Devine, Kempton, & Forehand, 1994; Ferdinand & Verhulst, 1995; Rao et al., 1999; Weissman et al., 1999). These longitudinal findings, along with the high recurrence rate of depressive episodes in adulthood (e.g., APA, 2000), warrant an assessment of self and family history of depressive and substance related disorders.

Initial Psychometric Evaluation of the ALAIS

The 278-item ALAIS consists of 12 scales that assess 11 theoretical determinants of depression representing situational, behavioral, cognitive, and health domains discussed above. Initial psychometric evaluation using a multicultural college sample (n = 133) showed acceptable internal consistency for all 12 scales with Cronbach's alpha ranging from .60 to .94, with $\bar{\alpha}$ = .78. Temporal stability reliability estimates ranged from α = .58 to 1.00, with $\bar{\alpha}$ = .80, across all scales. There was significant concurrent validity (as assessed by correlations with the BDI scores) (r = -.29 to -.72) and divergent validity (as assessed by correlations with life satisfaction and positive affect scores) (r =

.29 to .79) across the 12 ALAIS scales. Alcohol use was not significantly correlated with depression, life satisfaction, or positive affect.

Although these psychometric properties show promise, the ALAIS needs further revision and validation as a comprehensive self-report assessment device for depression and its correlates that can be used across diverse young adult settings. In light of this need, the purpose of this study was to further refine and test the ALAIS for use among multicultural young adult college students by: (1) revising the ALAIS based on results from the initial psychometric evaluation (Lee, 2000) and (2) conducting a psychometric evaluation of the revised ALAIS in a multicultural sample of young adult college students.

Based on the initial study, it was expected that the ALAIS would demonstrate acceptable internal consistency and 2-1/2 week test-retest reliability. In terms of construct validity, depression was hypothesized to be significantly and negatively related to life satisfaction and positive affect, but unrelated to antisocial tendencies. It was also hypothesized that depression would be significantly and positively correlated with major and daily stressful events, negative social interaction, and alcohol use. In terms of divergent validity, it was hypothesized that higher depression would be significantly and inversely related to social support, activity level, self-reinforcement, assertiveness, perceived control, cognitive self-efficacy, and the absence of dysfunctional achievement attitude and positive perception of one's health.

Method

Participants

Students enrolled in undergraduate psychology courses at University of Hawaii at Manoa (UHM) were recruited to complete the ALAIS twice. Of the 265 participants, 198 completed the ALAIS again in 2-1/2-weeks. Participants with a mean score on either the MMPI-L (Dahlstrom et al., 1972) or Social Desirability Scale (Crowne & Marlow, 1967) that was greater than two standard deviations from the sample mean were excluded from the sample. Consequently, six participants were eliminated. In addition, since the purpose of this study was to conduct a psychometric evaluation of the ALAIS on a young adult college population, participants outside the age range of 18-26 were excluded. The final sample comprised 231 participants who completed the ALAIS during the initial test period and 181 of these participants who completed the ALAIS again 2-1/2 weeks later.

Ethnicity of the participants was reported as follows: 21.2% (n = 49) Japanese, 20.8% (n = 48) Caucasian, 20.8% (n = 48) interracially mixed, 11.3% (n = 26) Filipino, 8.7% (n = 20) Chinese, 6.1% (n = 14) Hawaiian or part-Hawaiian, 5.2% (n = 12) Korean, 3.0% (n = 7) Pacific Islander, 2.2% (n = 5) Asians other than listed, and .9% (n = 2) African American. Ages ranged from 18 to 26, with a mean age of 20.89 years (SD = 2.13). Females comprised 68.8% (n = 159) of all participants. Ninety percent (n = 210) were single, 6.9% (n = 16) were cohabiting, and 2.2% (n = 5) were married.

Mental health history data indicated that 13.0% (n = 30) of participants reported to have experienced depression in their lifetime and 6.4% (n = 15) reported to have experienced anxiety, substance abuse related, or other unspecified emotional problems in

their lifetime. In addition, 15.6% (n = 36) of participants reported parental history of emotional or substance related problems, while 8.2% (n = 19) reported familial history of emotional or substance related problems by a sibling, 6.1% (n = 14) by an aunt or uncle, 3% by a grandparent (n = 7), and 3% (n = 7) by a cousin. The data further indicated that 27.7% (n = 64) of participants had received some type of mental health services in their lifetime. Of the 231 participants, 11.7% (n = 27) reported having received services from a counselor, 6.9% (n = 16) from a psychologist, 5.2% (n = 12) from a psychiatrist, and 3.4% (n = 8) from an unspecified other service provider. Additionally, 12.6% (n = 29) reported family history of having received mental health services from a psychologist, 10.0% (n = 23) from a psychiatrist, 10.4% (n = 24) from a counselor, 1.7% (n = 4) from an unspecified service provider, and .9% (n = 2) from a general practitioner.

Measures

There were five demographics variables assessed by the ALAIS. These variables were age, gender, marital status, ethnic background, and cultural identity. Scales comprising the ALAIS were selected for their established psychometric properties, primarily in relation to young adult college samples. The ALAIS is comprised of 16 measures, with a total of 304 items.

Situational domain. In the situational domain, correlates of depression assessed by the ALAIS includes life events, social support, and negative social interactions. Stressful life events was assessed by two scales: the 36-item Life Events Scale for Students (LESS; Linden, 1984) and the 42-item Pleasant-Unpleasant Life Events Schedule (PULES; Davis & Burns, 1999). Test-retest reliability estimates reported for

the LESS ranged from .53 to .69 in college samples (Clements & Turpin, 1996; Lee, 2000). Significant positive correlations were found between the LESS and the General Health Questionnaire (GHQ; Goldberg, 1978) (r = .44) and the BDI (r = .39; Lee, 2000). The LESS was not significantly correlated with the Marlowe-Crowne Social Desirability Scale (Clements & Turpin, 1996). Cronbach's alphas for the four subscales (intensity and frequency measures across positive and negative events) of the PULES ranged from .63 to .83 in a college student sample, with the frequency of negative events showing the highest alpha (Davis & Burns, 1999; Lee, 2000). Only the frequency scores for positive and negative events were used in the analyses. Test-retest coefficients for positive and negative frequencies were .68 and .83, respectively, in a multicultural college sample (Lee, 2000).

Social support was assessed by the 12-item Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988). Cronbach's alphas of .95, .93, and .92 were found for the significant other, family, and friends subscales of the MSPSS, respectively, and .94 for the entire scale, in a sample of college students (Lee, 2000). Test-retest correlations were 1.0, .58, and .61 for significant other, family, and friends subscales, respectively, and .81 for the entire scale (Lee, 2000). All MPSS scale and subscale scores were not significantly correlated with scores on the Marlowe-Crown Social Desirability Scale (Dahlem, Zimet, & Walker, 1991). Significant negative correlations have been found between MPSS and depression, as measured by the Hopkins Symptom Checklist (HSCL; Derogatis, Lipman, Rickels, Uhlenhuth, & Cove, 1974) (r = -.24) and the BDI (r = -.50; Lee, 2000).

Negative social interaction was assessed using the 21-item Test of Negative Social Exchange (TENSE; Finch et al., 1999; Ruehlman & Karoly, 1991). The TENSE had a Cronbach's alpha of .96 and a test-retest correlation of .99, and scores on this measure correlated significantly and positively with the BDI (r = .50) in a multicultural college sample (Lee, 2000).

Behavioral domain. In the behavioral domain, correlates of depression assessed by the ALAIS included activity level, self-reinforcement, and assertiveness. Activity level was assessed using the revised 20-item Activity Level scale (Lee, 2000), which produces scores for frequency and intensity of activities. Internal consistency for frequency of activities was .68 and .83 for intensity of activities. Test-retest correlation was .73 for intensity and .76 for frequency. Significant positive correlations were found between the BDI and Activity Level (.22 for intensity and .27 for frequency) in a multicultural college sample (Lee, 2000).

Self-reinforcement was assessed using seven items from the10-item short form of the Frequency of Self-Reinforcement Questionnaire (FSRQ-SF) (Heiby, 1982). To improve internal consistency of the short form, three of the original 10 items were eliminated based on low item-total correlations found in the initial study. Internal consistency of the revised FSRQ was .77 and test-retest correlation was .84. Significant negative correlations were found between FSRQ and BDI scores (r = -.72) in a multicultural college sample (Lee, 2000).

The assertiveness component of social skills was measured by the 26-item assertiveness scale from the Interpersonal Behavior Survey (IBS; Mauger & Adkinson,

1980). Internal consistency for this measure was .72, test-retest correlation was .85, and scores on this measure were significantly and negatively correlated with BDI scores (r = -.38) in a multicultural college sample (Lee, 2000).

Cognitive domain. In the cognitive domain, correlates of depression assessed by the ALAIS included perceived control, cognitive self-efficacy, and dysfunctional achievement attitude. Perceived control was measured by 16 items selected from the Perceived Control Scale (Ireys, 1979). Internal consistency for this measure was .76, test-retest correlation was .75, and significant negative correlations were found between perceived control and BDI scores (r = -.50) in a multicultural college sample (Lee, 2000).

Cognitive self-efficacy was measured by the three-item Cognitive Efficacy Questionnaire (CEQ; Kavanaugh & Wilson, 1990). Internal consistency for this measure was .60 and test-retest reliability was .76. The CEQ's correlation with the BDI ranged from -.51 to -.53 in college student samples (Kavanaugh & Wilson, 1990; Lee, 2000).

Dysfunctional achievement attitude was assessed using the eight-item achievement subscale of the DAS (Power et al., 1994; Weissman, 1978). Internal consistency of the achievement subscale was .85 in a mixed sample of depressed and non-depressed (Power et al., 1994) and .87 in a college sample. The measure's test-retest correlation was .76 and its correlations with the BDI ranged from -.43 to -.55 in non-depressed college samples (Joseph & Lewis, 1998; Lee, 2000).

Health domain. In the health domain, correlates of depression assessed by the ALAIS included mental health history, perceived health, and alcohol use. Mental health history of self and family was assessed using four items written by the author and two

supervising psychologists. Two items assessed the lifetime history of having experienced any emotional or substance related problems by self and any family member, while an additional two items assessed lifetime history of having received mental health services by self and family members. Perceived health was measured by one item from the National Institute of Aging's interview scale (National Institute of Health, 1987). Test-retest reliability was .84 and this single item correlated negatively with the BDI (r = -.41) in a multicultural college sample (Lee, 2000). Alcohol intake was assessed using the three-item frequency factor of the Alcohol Use Disorder Identification Test (AUDIT; Babor & Grant, 1989).

Depression, life satisfaction, positive affect, and antisocial tendency. Depression was assessed by a modified version of the 21-item BDI (Beck, 1967) that was included in the ELAIS. In this modified version, BDI items are rated on a Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). This modification was intended to maintain consistency in rating format across various measures included in the ELAIS and the ALAIS. As a result of this change, the mean BDI scores in both the ELAIS and ALAIS are higher than those obtained using the original BDI. Cronbach's alpha of .89 and test-retest reliability of .72 was found for the modified BDI in a multicultural college sample (Lee, 2000).

The 10-item Life Satisfaction scale (National Institute of Health, 1987) was used as a means to validate the depression construct via its hypothesized inverse relationship with depression. Internal consistency for this scale was .88, test-retest was .72, and the

measure correlated significantly and negatively with the BDI (r = -.61) among multicultural young adult college students (Lee, 2000).

To provide further construct validity evidence for the depression measure, the ALAIS included a measure of positive affect and a scale measuring antisocial tendency. The 25-item Depression-Happiness Scale (D-H S; McGreal & Joseph, 1993) measures positive affect, or subjective well-being. The D-H S, using college samples, was found to be inversely correlated with the BDI, (r = -.75, Joseph & Lewis, 1998; r = -.86, Lee, 2000) and the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) (r = -.85, Joseph, Lewis, & Olsen, 1996). In addition, the absence of positive affect was found to be related to depression, while a high level of negative affect was shown to be related to both depression and anxiety in adults and children (Lonigan et al., 1994; Watson, Clark, & Carey, 1988; Watson & Kendall, 1989).

To provide evidence for divergent validity, the 22-item Antisocial Practices (ASP) content scale of the MMPI (Greene, 2000) was used in this study. Ben-Porath et al., (1993) found the ASP scale to be a nonsignificant predictor of depression or other psychopathology symptom profiles as assessed by clinician rated checklists.

Response bias. Response bias was measured using the 15-item MMPI-L Scale (Dahlstrom et al., 1972) and five items selected from the Crowne-Marlowe Social Desirability Scale (Crowne & Marlowe, 1967), as contained in the ELAIS. These measures were included to detect and exclude participants who evidenced response styles that may bias the findings.

Procedure

The first objective of this study was to revise the ALAIS based on the results of the initial psychometrics study (Lee, 2000). The revision process included an examination of item-total correlations for each measure and the intercorrelations among all measures, the development of items to assess mental health history, and a selection of a variable and measure (i.e., antisocial tendencies) to better evaluate divergent validity of the ALAIS.

As described earlier, three of the 10 FSRQ items were eliminated due to low item-total correlations. Also, four items were developed to assess mental health history and a content scale from the MMPI that assesses antisocial tendencies was adopted for inclusion in the ALAIS.

Examination of the intercorrelation matrix revealed high correlations among three measures assessing control-related variables, including self-reinforcement, assertiveness, and perceived control. Subsequently, items in each of the three measures were reviewed for overlapping item content. No revision or elimination of items or measures resulted from this examination.

The second objective of this study was to test the psychometric properties of the revised ALAIS using a nonclinical young adult sample. Students enrolled in undergraduate psychology classes at UHM were recruited for participation in this study for possible extra credit points. The author briefed students in each participating course on the purpose of the study, their rights as voluntary research participants, protection of confidentiality, and instructions for returning completed surveys, at the beginning or the

end of each participating class. The ALAIS was distributed to volunteers during this initial briefing and participants were asked to complete the ALAIS on their own, outside of class, and return the completed ALAIS within two days. Those participants who completed the ALAIS at time one were asked to complete the ALAIS once more, approximately two and a half weeks following the initial briefing and distribution of the ALAIS. Participants were instructed to complete the ALAIS on their own, outside of class, and return them completed within two days of the retest. The ALAIS was prefaced with a written informed consent form to be signed by each participant and a copy of the signed consent form was made available upon request. Participants were informed of how to contact the author should they have additional questions regarding this study.

Results

All analyses with the exception of test-retest reliability and predictive validity were conducted using data from time one. Means and standard deviations for all variables assessed by the ALAIS are presented in Table 1 and the intercorrelation matrix of all variables in the ALAIS is presented in Table 2.

Internal Consistency and Test-Retest Reliability

Internal consistency and test-retest reliability estimates for each measure in the ALAIS are presented in Table 3. In general, item analyses revealed fairly strong estimates of internal consistency for most variables assessed by the ALAIS, with Cronbach's alphas ranging from .62 for stressful life events to .96 for negative social exchange. The exception to these findings was the low internal consistency estimate (α = .39) for the three items of the cognitive self-efficacy measure.

In general, 2-1/2-week test-retest correlations indicated moderate stability, with correlations ranging from .66 for perceived health to .92 for alcohol use. The stability for cognitive self-efficacy was the lowest among all variables (r = .58; p < .01).

Concurrent and Divergent Validity

Concurrent and divergent validity of the ALAIS was assessed by correlating depression, life satisfaction, positive affect, and antisocial tendencies with 12 correlates of depression assessed by the ALAIS at time one (see Table 4). As expected, higher levels of depression were associated with lower life satisfaction (r = -.66; p < .01) and positive affect (r = -.73; p < .01), while antisocial tendencies were not related to depression (r = .10, n.s.). In terms of concurrent validity, higher levels of major and daily

stressful life events and negative social interactions were associated with higher depression. Consistent with expectations, greater social support was related to lower depression as well as greater life satisfaction and positive affect. Higher levels of leisure activity, assertiveness, self-reinforcement, and perceived control were associated with lower levels of depression and higher levels of life satisfaction and positive affect. Similarly, higher levels of cognitive self-efficacy and perceived health were associated with lower levels of depressive symptoms and higher levels of life satisfaction and positive affect. Higher scores on the dysfunctional achievement attitude scale, which indicate lower level of dysfunctional cognition regarding achievement, was related to lower depression but higher life satisfaction and positive affect.

A simultaneous multiple regression analysis was conducted to examine the unique relationship between each theoretical determinant of depression and depression. Specifically, time two depression scores were regressed on scores of hypothesized predictors of depression at time one. Initially, the individual mental health history was included in the regression model to test its significance as a predictor of depression. The results indicated, however, that mental health history did not account for variation in depression scores. The simultaneous multiple regression analysis showed that the original eleven hypothesized determinants of depression at time one accounted for a significant proportion of the variance in depression at time two, $R^2 = .48$, $F(12,170) = 13.17$, $p<.0001$. The results further indicated that partialling out the effects of all other variables in the regression model, perceived health, negative social exchange, self-reinforcement practices, and perceived self-control at time one significantly predicted

depression at time two (see Table 5). As indicated by tolerance indices, multicollinearity did not present problems in this analysis.

Table 1.

Means and Standard Deviations of Correlates of Depression (N=231)

Variable	Possible range	Mean	SD	Minimum obtained	Maximum obtained
Depression	21-105	52	15	22	97
Life satisfaction	10-50	35	7	11	50
Positive affect	0-75	50	10	26	75
Antisocial tendencies	0-22	10	4	0	20
Stressful life events	0-897	256	165	0	890
Daily life events	11-108	35	13	11	88
Social support	1-72	60	10	19	72
Negative social exchange	0-181	68	42	0	187
Activity level	40-180	123	16	78	169
Self-reinforcement	7-35	25	4	13	33
Assertiveness	27-135	86	11	55	123
Perceived control	15-75	54	7	20	74
Cognitive self-efficacy	.10-1.00	.64	.20	13	1.0
Dysfunctional achievement attitude	8-56	35	10	9	56
Perceived health	1-5	4	1	1	5
Alcohol use	0-13	4	3	0	13

Table 2.

Intercorrelations Among Depression and Correlates of Depression (N=231)

	Dep	Life	Posit	Anti	Stress	DailyStr	NegSo	SS	Activ	Assert	Self-Re	PerCon	CogSE	Dysf	Health	Alco
Dep																
Life	-.66**															
Posit	-.73**	.70**														
Anti	.10	-.16*	-.17**													
Stress	.32**	-.16*	-.17**	.25**												
DailyStr	.36**	-.16*	-.22**	.27**	.38**											
NegSo	.45**	-.27**	-.34**	.28**	.44**	.55**										
SS	-.30**	.49**	.44**	-.23**	-.17*	-.05	-.17*									
Activ	-.14*	.27**	.27**	.07	.04	.07	.10	.33**								
Assert	-.41**	.39**	.44**	.03	.02	-.04	-.08	.27**	.30**							
Self-Re	-.70**	.64**	.69**	-.08	-.12	-.29**	-.33**	.37**	.32**	.57**						
PerCon	-.59**	.52**	.57**	-.08	-.06	-.26**	-.25**	.36**	.31**	.66**	.67**					
CogSE	-.34**	.34**	.37**	-.19**	-.24**	-.21**	-.24**	.22**	.22**	.26**	.39**	.35**				
Dysf	-.36**	.38**	.33**	-.11	-.11	-.17**	-.26**	.30**	.13*	.20**	.39**	.36**	.20**			
Health	-.42**	.28**	.39**	-.11	-.19**	-.17**	-.24**	.22**	.16*	.27**	.38**	.36**	.24**	.18**		
Alco	-.02	.00	-.01	.16*	.19**	.07	.12	-.12	.05	.21**	.04	.17**	.04	.02	.10	

Dep, Depression; Life, Life satisfaction; Posit, Positive affect; Anti, Antisocial tendencies; Stress, Stressful life events; DailyStr, Daily life events; NegSo, Negative social exchange; SS, Social support; Assert, Assertiveness; PerCon, Perceived self-control; CogSE, Cognitive self-efficacy; Dysf, Dysfunctional achievement attitude; Health, Perceived health; *Alco, Alcohol use*; *$p<.05$; **$p<.01$

Table 3.

Reliability Coefficients

Variables	Test-Retest (N=183)	Alpha (N=231)
Depression	.74**	.90
Life satisfaction	.71**	.89
Positive affect	.63**	.88
Antisocial tendencies	.78**	.75
Stressful life events	.71**	.62
Daily life events	.77**	.84
Social support	.74**	.87
Negative social exchange	.75**	.96
Activity level	.72**	.81
Assertiveness	.81**	.81
Self-Reinforcement	.51**	.75
Perceived control	.77**	.82
Cognitive self-efficacy	.58**	.39
Dysfunctional achievement attitude	.75**	.88
Perceived health	.66**	NA
Alcohol use	.92**	.86

**$p < .01$

Table 4.

Concurrent and Divergent Validity (N=231)

Variable	Depression	Life Satisfaction	Positive Affect	Antisocial tendencies
Depression		-.66**	-.73**	.10
Stressful life events	.32**	-.16*	-.17**	.25**
Daily life events	.36**	-.16*	-.22**	.27**
Negative social exchange	.45**	-.27**	-.34**	.28**
Social support	-.30**	.49**	.44**	-.23**
Activity level	-.14**	.27**	.27**	.10
Assertiveness	-.41**	.39**	.44**	.03
Self-Reinforcement	-.70**	.64**	.69**	-.08
Perceived control	-.59**	.52**	.57**	-.08
Cognitive self-efficacy	-.34**	.34**	.37**	-.19**
Dysfunctional achievement attitude	-.36**	.38**	.33**	-.11
Perceived health	-.42**	.28**	.39**	-.11
Alcohol use	-.02	.00	-.01	.16*

*$p < .05$
**$p < .01$

Table 5

Simultaneous Multiple Regression for Theoretical Determinants of Depression (N=183)

Variable	B	SE B	β	Part Corr
Stressful life events	1.011E-02	.005	.120	.102
Daily life events	5.477E-02	.072	.005	.004
Negative social exchange	4.950E-02	.023	.154*	.117
Social support	-1.474E-02	.090	-.011	-.009
Activity level	-3.890E-02	.054	-.045	-.040
Assertiveness	4.589E-02	.098	.036	.026
Self-reinforcement	-.781	.288	-.235**	-.150
Perceived self-control	-.416	.162	-.232*	-.142
Cognitive self-efficacy	-1.258	8.208	-.019	-.023
Dysfunctional achievement attitude	-.116	.084	-.087	-.076
Perceived health	-3.628	1.120	-.200**	-.179
Alcohol use	-.207	.266	-.045	-.043

*$p < .05$
**$p < .001$

Discussion

This study assessed the psychometric adequacy of the ALAIS for use in a culturally diverse young adult college sample, as a preliminary step toward testing its applicability across clinical and research settings. In general, the results of this study provide support for the reliability and validity of the ALAIS.

Psychometric Evaluation

Reliability. The majority of the scales in the ALAIS were found to be internally consistent and stable in this ethnically diverse sample. The single exception to these findings is the low internal consistency of the cognitive self-efficacy measure.

The low internal consistency of the self-efficacy measure found in the current study is consistent with the results of the initial study by Lee (2000). The relatively low internal consistency is not surprising since the scale contains only three items. There are, however, several issues to consider in interpreting the low item-total correlations observed in this measure. The three items ask the rater to rate their perceived ability to control negative thoughts throughout the day as well as to proportionately rate the part of any given day that he or she is able to make pleasant. While these items may be consistent conceptually, they may yield different interpretations across individuals. For example, a person who is successful at challenging negative thoughts might avoid experiencing persistent negative affect but may not necessarily experience a sustained pleasant mood throughout the day. It could also be that raters may attribute their ability to experience a pleasant day to external events and people, such as presence or absence of stressors, rather than accept it as an outcome resulting from their own ability to

cognitively control their mood. Such interpretations and practices, in fact, would indicate one's ability to practice self-reinforcement skills as well as reflect personal attribution styles, rather than solely evaluate one's mood-controlling competence. Therefore, the three items may be assessing multiple components of the self-efficacy construct that do not necessarily covary in a consistent direction, particularly in a nonclinical sample. In a clinical sample, where cognitive distortion is theorized to persistently influence self-evaluation (e.g., Beck, 1976; Kovac & Beck, 1978), the three items may reveal higher internal consistency due to global negative attributions of the depressed. A further test of the ALAIS using a clinical sample would be necessary to examine this possibility.

Validity. Concurrent validity of the ALAIS was supported by significant associations between depressive symptoms and high ratings of theoretical determinants, including stressful life and daily events and negative social interactions. Support for divergent validity was also evidenced by significant associations between resilience variables (i.e., self-reinforcement, cognitive self-efficacy, assertiveness, social support, and perceived control) and life satisfaction and positive affect. As expected, antisocial tendencies were not related to depression scores, further providing evidence for construct validity of the ALAIS. Evidence for predictive validity of the ALAIS was also provided by the significant relationship between the hypothesized predictors at time one and depression at time two.

Alcohol consumption was not found to be related to depression, life satisfaction, nor positive affect. The insignificance of the alcohol variable in relation to depression in this sample is inconsistent with the research literature (e.g., Petty, 1992). This lack of

construct validity support for the alcohol scale was also observed in the initial study, and may be associated with several demographic and socio-cultural factors. First, 50% of participants in the current sample were below the legal drinking age in the state of Hawaii and this proportion may have led to underreporting of and restricted alcohol use among, some of those individuals. Second, given that alcohol use may vary in meaning and norms across socio-cultural settings, the cultural heterogeneity of the current sample may produce results that differ from those of other studies using samples that were more homogeneous demographically (e.g., ethnicity, gender). For instance, although some studies found female drinkers to be at higher risk for developing major depression (e.g., Noel & Lisman, 1980; Thombs, Beck, & Mahoney, 1993), such a finding was not evident in the current sample which is overrepresented by females (69%). In addition to the above factors, the effect of alcohol use on depression may be mediated by other factors, such as comorbidity (e.g., conduct disorder; Clark, 1997) and family history of substance abuse. Interestingly, a relationship was found between alcohol use and antisocial tendencies ($r = .16$, $p < .05$) in the current sample. Alcohol consumption may also be related to depression as modulated by additional variables such as stressful events or lack of social support (Thombs et al., 1993). Alternatively, the lack of relationship between alcohol use and depression scores using the ALAIS may be due to the inadequacy of the measure in assessing aspects of the alcohol use that may be specifically related to depressive symptoms among young adults (e.g., social context of alcohol use). Further tests are needed to evaluate the relationship between alcohol use and depression among young adult college students.

Intercorrelations among control-related variables. High intercorrelations were observed among control-related variables including self-reinforcement, assertiveness, and perceived control. These results are not surprising given that numerous investigators have defined and theorized self-control as a multicomponent construct (e.g., Bandura, 1977; Rehm, 1977; Rothbaum, Wiesz, & Snyder, 1982). For example, in addressing treatment issues, Rehm (1977) defines self-reinforcement as a component of control, along with self-monitoring and self-evaluation. In determining the role of control beliefs in psychopathology and treatment outcome, contingency-competence-control model implicates one's perceived role in the outcome, capabilities, as well as contextual factors, as relative to a target behavior (Han, Weisz, & Weiss, 2001; Weisz, 1986a). In general, explanations for components of control related variables appear to vary as well as overlap across theorists and may be difficult to capture by discrete multiple measures, such as those included in the ALAIS.

The necessity to retain all three control-related measures in the ALAIS remains unclear. Since the ALAIS was developed to be useful in research and clinical settings, those variables that would lead to a better understanding of causal and treatment effects for depression would warrant inclusion in the ALAIS. Perhaps future outcome studies using the ALAIS in a clinical sample would provide more specific evidence, in terms of their role in procuring treatment effects in depressed young adults, to suggest inclusion or exclusion of these control related measures. However, given the high correlation observed particularly between self-reinforcement and perceived control ($r = .67$, $p<.001$) in the current nonclinical sample, along with their potential conceptual overlap (e.g.,

Rehm's conceptualization of self-control), the risk for redundancy appears to be greatest between these two variables.

Clinical Implications

The ALAIS as an assessment device has the potential to facilitate a prescriptive approach to idiographic treatment planning and delivery. Comparing individual scores to cutoff scores on a profile of depression generated by the ALAIS enables the clinician to identify treatment targets. Appropriate intervention(s) can then be selected to efficiently address treatment targets using EST manuals and other evidence-based intervention resources (e.g., Fisher, Hayes, & O'Donohue, in press). Such a strategy to treatment delivery would provide one method for clinicians to systematically adapt multicomponent EST's for addressing individual therapeutic needs. In addition, treatment relevant data as generated by the ALAIS enable the clinician to address therapeutic needs that may be difficult to circumscribe in cases of comorbidity or a lack of fit with the existing diagnostic system (e.g., subclinical distress, co-occurring mood and anxiety features). These features of the ALAIS provide the clinician with treatment relevant data that facilitate a prescriptive approach to intervention at an individual level.

Prescriptive models of treatment delivery (e.g., for review, see Beutler & Baker, 1998) and the practice of generating individual clinical profiles to aid in such treatment approaches are not new (e.g., Wilson, 1996). Many existing prescriptive approaches attempt to individualize treatment delivery and predict treatment outcome by assessing factors stemming from the client's life (e.g., psychosocial functioning) and/or personality factors (e.g., big five, MMPI scales) that are hypothesized to influence an individual's

responsiveness to treatment, rather than directly alleviate clinical symptoms. Also, data used in these approaches, such as individual case formulations, are often influenced by or rely on subjective clinical judgments (e.g., Wilson, 1996) rather than objective assessment devices. The ALAIS, however, is an objective device that can systematically generate an individual profile that is directly relevant to alleviating depressive symptoms.

An objective device enables the clinician to systematically diversify the use of treatment manuals with a minimal use of clinical judgments. For example, in evaluating the efficacy of a flexible versus a standardized delivery approach of a multicomponent manual (e.g., Jacobson et al., 1989), findings demonstrated short-term efficacy and long-term advantage of the flexible use of the manual. However, the strategy used by Jacobson and colleagues (1989) to prescribe such a flexible use of a manual was based on clinical judgments, which may not be easily replicable by other clinicians.

Facilitating systematic methods to deliver EST's flexibly may help to encourage the use of empirically supported and evidence-based protocols by clinicians who perceive standardized treatment manuals to be too restrictive for use in practice settings (e.g., Kendall, Chu, Gifford, Hayes, & Nauta, 1998). Therefore, replicable methods to diversify the use of EST's may not only provide additional pathways to client's recovery from depression but may also contribute to the appropriate translation and dissemination of evidence-based interventions for practice settings.

As suggested earlier, since the ALAIS assesses determinants of depression rather than diagnostic symptoms, resulting profiles can be instrumental in identifying treatment needs for those who have comorbid disorders with depression, subclinical symptoms that

do not meet diagnostic criteria for depressive disorders, or compounded features of mood and anxiety disorders (e.g., Zinbarg & Barlow, 1991). Such clinical presentations often are not easily defined using the current diagnostic classification system and warrant alternative assessment approaches in identifying and selecting therapeutic needs. The ALAIS can be used to individualize therapeutic needs for such cases by assessing theoretical determinants of depression that may be present in atypical presentations of depression and other diagnoses that share common features with depression (e.g., Generalized Anxiety Disorder).

Utility in Outcome Research

The ALAIS can be used to systematically investigate treatment effects in outcome research. Specific data gathered during the course of treatment regarding factors that may alleviate depressive symptoms have the potential to identify differential and common therapeutic effects across various treatment models and client profiles. Identification of therapeutic effects, in turn, may contribute to the refinement of existing EST's and the development of prescriptive strategies as well as evidence-based and variable-specific interventions for depression.

The use of the ALAIS in outcome studies for depression may generate findings that are necessary in understanding how treatment models procure positive treatment outcome. For example, the ALAIS can be instrumental in tracking changes in the determinants of depression in relation to changes in depression symptoms. Such data gathered throughout the course of treatment could elucidate how each of the theoretical determinants of depression is implicated in producing specific and nonspecific treatment

effects across various treatment models. In a similar fashion, the ALAIS could also be useful in examining the placebo effect as well as treatment failures.

Thus, aggregate results from outcome investigations using the ALAIS can provide an empirical basis for the refinement and development of efficacious and effective treatment protocols for depression. These endeavors may promote greater treatment options and accessibility, to address the diverse range of clinical needs among the depressed. Encouraging access to treatment and prevention for depression among young adults is an important endeavor, given the recurrent nature of depression as well as various secondary (e.g., vulnerability to other mental disorders) and compounding effects of depressive symptoms on other health issues in later adult life (e.g., Murray & Lopez, 1996).

Limitations and Future Direction

Although the current study provided evidence for the psychometric adequacy of the ALAIS, these findings should be interpreted in light of the study's limitations. First, the cultural diversity of the current sample is unique to the population of students in University of Hawaii and may not be representative of young adult college students elsewhere.

Second, in terms of clinical applicability, additional studies using clinically depressed young adults are necessary to test the sensitivity of the ALAIS as a measure and its applicability as a clinical tool. Future psychometric studies using clinically depressed and nondepressed samples are needed in the development of group norm scores. Cutoff scores based on norm references can then be established that identify

clinical, subclinical, and normal ranges of functioning for all variables in the ALAIS. Subsequently, an individual profile of scores on the ALAIS can systematically identify areas of intervention needs. Future outcome studies using the ALAIS are also necessary to identify and test specific benefits of using the ALAIS in a prescriptive approach to treatment delivery for depression.

Replications using clinical samples would require the inclusion of the BDI in its original rating format. Because the current study used a revised version of the BDI (i.e., as appeared in the ELAIS), mean BDI scores could not be compared with established population norms. The distribution of depression scores for this sample, however, was comparable to that reported in a previous study of depression in a multicultural sample of young adult college students (e.g., Tanaka-Matsumi & Kameoka, 1986).

Third, although the ALAIS attempts to be comprehensive in its inclusion of 11 theoretical determinants of depression, there may be other determinants relevant to this age group that were not included in the ALAIS. Further, although the use of the ALAIS is proposed to provide treatment relevant data that has the potential to improve idiographic treatment delivery and outcome, such potential is not limited to the assessment of variables included the ALAIS. For example, the ALAIS does not assess therapist or client variables that may interact with therapeutic alliance, process, or treatment responsiveness that are hypothesized to affect treatment outcome (e.g., Beutler, 1997; Hardy et al., 2001; Huppert, Bufka, Barlow, Gorman, & Shear, 2001).

In order to build on the current findings, future replications using clinically depressed young adults as well as single-case outcome studies using evidence supported

protocols are being planned. Data collected from such studies would advance efforts to further refine the ALAIS as a clinical and research tool. Evidence-based assessment approaches to effective treatment delivery and development would provide much needed resources in addressing this prevalent and persistent disorder, for which young adults are particularly vulnerable.

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Appendix

Adult Life Adjustment Inventory Schedule for depression

Scale 1:	Demographics
Scale 2:	Cognitive Efficacy Questionnaire (CEQ)
Scale 3:	Alcohol Use Disorder Identification Test (AUDIT)
Scale 4:	Self-Perceived Health Status
Scale 5:	Dysfunctional Achievement Attitude (DAS-8)
Scale 6:	Activity Level
Scale 7a:	Multidimensional Scale of Perceived Social Support (MSPSS)
Scale 7b:	Test of Negative Social Exchange (TENSE)
Scale 8:	Beck Depression Inventory (BDI)
Scale 9a:	Life Satisfaction
Scale 9b:	Depression-Happiness Scale (D-H S)
Scale 10:	Social Skills Assessment, IBS (SGE Section)
Scale 11:	Self-Reinforcement Scale, FRSQ-Short Form
Scale 12a:	PULES, Intensity
Scale 12b:	PULES, Frequency
Scale 12c:	Life Events Scale for Students (LESS)
Scale 13:	Perceived Control Scale, Ireys
Scale 14:	MMPI-L Scale (items #1-#13) Edward's Social Desirability Scale (#14-#23)
Scale 15:	MMPI-ASP Scale

Scale 1

Please provide the following information.

1. Name_____(will not be entered into the data file, for extra credit purpose only)

2. The last 4 digits of your Security Number_____(will not be entered into the data file, for extra credit purpose only)

3. Gender: a) Female b) Male

4. Age _____

5. Marital Status: a) Married b) Single c) Cohabiting d) Divorced e) Widowed

6. Ethnicity (Please circle one)
   a. African American
   b. Caucasian
   c. Chinese
   d. Filipino
   e. Hawaiian or Part Hawaiian
   f. Japanese
   g. Korean
   h. Pacific Islander
   i. Asian other than listed above (please specify)_____
   j. Mixed (please specify)_____

7. Which cultural group do you most identify with? (Please circle one)
   a. African American
   b. Caucasian
   c. Chinese
   d. Filipino
   e. Hawaiian or Part Hawaiian
   f. Japanese
   g. Korean
   h. Pacific Islander
   i. Asian other than listed above (please specify)_____
   j. Other (please specify) _____

Scale 2

For each of the questions below, please circle the choice that best describes you.

1. On any given day, how much time can you make at least moderately enjoyable.
    a) Less than 30 minutes
    b) Less than 1 hour
    c) 1 hour or more
    d) 2 hours or more
    e) 3 hours or more
    f) 4 hours or more
    g) 5 hours or more
    h) 6 hours or more
    i) 7 hours or more
    j) 8 hours or more
    k) 9 hours or more
    l) 10 hours or more
    m) 11 hours or more
    n) 12 hours or more

2. On any given day, how much time can you have without any sad, discouraging or unpleasant thoughts?
    a) Less than 30 minutes
    b) Less than 1 hour
    c) 1 hour or more
    d) 2 hours or more
    e) 3 hours or more
    f) 4 hours or more
    g) 5 hours or more
    h) 6 hours or more
    i) 7 hours or more
    j) 8 hours or more
    k) 9 hours or more
    l) 10 hours or more
    m) 11 hours or more
    n) 12 hours or more

3. On any given day, what percentage of the negative thoughts that pop into your mind can you effectively challenge?
    a) Less than 10%
    b) 10%
    c) 20%
    d) 30%
    e) 40%
    f) 50%
    g) 60%
    h) 70%
    i) 80%
    j) 90%
    j) 100%

Scale 3

For each of the questions below, please circle the choice that best describes you.

For all questions, one drink refers to:

1 drink = 12-oz beer,
6-oz wine,
1-oz alcohol, (mixed or straight)

1. How often do you have a drink?
   a) Never
   b) Once/month or less
   c) 2 to 4 times a month
   d) 2 to 3 times a week
   e) 4 or more times a week

2. How many drinks containing alcohol do you have on a typical day when you are drinking?
   a) None
   b) 1 or 2
   c) 3 or 4
   d) 5 or 6
   e) 7 or 9
   f) 10 or more

3. How often do you have six or more drinks on one occasion?
   a) Never
   b) Less than once/month
   c) Monthly
   d) Weekly
   e) Daily or almost daily

Scale 4

1. How would you rate your overall health? (Please circle one)

1 – EXTREMELY POOR
2 – POOR
3 – FAIR
4 – GOOD
5 – EXCELLENT

2. Has anyone in your family ever experienced any emotional or substance use related problems? (Please circle a or b)

a) No
b) Yes, if yes, please provide the family member(s) relationship to you_____

3. Have you ever experienced any emotional or substance use related problems? (Please circle a or b)

a) No
b) Yes, if yes, please indicate the specific problem you have experienced or are experiencing now_____

_____

4. Has anyone in your family ever received any type of services from a therapist, counselor, psychologist, psychiatrist, family physician, or social worker? (Please circle a or b)

a) No
b) Yes; if yes, please provide the title of the service provider and the type of services received from the service provider_____

_____

5. Have you ever received any services from a therapist, counselor, psychologist, psychiatrist, family physician, or social worker? (Please circle a or b)

a) No
b) Yes; if yes, please provide the title of the service provider and the type of services you received from the service provider_____

_____

Scale 5

For the items below, please circle the rating that most accurately describes how you feel.

1 – TOTALLY AGREE
2 – AGREE
3 – SOMEWHAT AGREE
4 – NEUTRAL
5 – SOMEWHAT DISAGREE
6 – DISAGREE
7 – TOTALLY DISAGREE

1. If I fail partly, it is as bad as being a complete failure.

   1 2 3 4 5 6 7

2. People will probably think less of me if I make a mistake.

   1 2 3 4 5 6 7

3. My life is wasted unless I am a success.

   1 2 3 4 5 6 7

4. If I don't set the highest standards for myself, I am likely to end up a second rate person.

   1 2 3 4 5 6 7

5. If I am to be a worthwhile person, I must be truly outstanding in at least one major respect.

   1 2 3 4 5 6 7

6. I must be a useful, productive, creative person or life has no purpose.

   1 2 3 4 5 6 7

7. If I do not do well all the time, people will not respect me.

   1 2 3 4 5 6 7

8. People who have good ideas are more worthy than those who do not.

   1 2 3 4 5 6 7

Scale 6

For each of the following activities listed below, please indicate:

A) How much you *would* enjoy the activity;

1 – NOT AT ALL ENJOY
2 – SOMEWHAT ENJOY
3 – ENJOY
4 – VERY MUCH ENJOY

and

B) How often you currently engage in the activity.

1 – NEVER
2 – OCCASIONALLY
3 – SOMETIMES
4 – OFTEN
5 – VERY OFTEN

1. Doing "aerobic" activities (e.g., active sports, exercise, water sports, exercise/dance classes, long walks, etc.)

   A) 1 2 3 4 B) 1 2 3 4 5

2. Going to the movies

   A) 1 2 3 4 B) 1 2 3 4 5

3. Going on picnics and/or to the beach

   A) 1 2 3 4 B) 1 2 3 4 5

4. Attending sporting events

   A) 1 2 3 4 B) 1 2 3 4 5

5. Eating out at restaurants

   A) 1 2 3 4 B) 1 2 3 4 5

6. Reading books, magazines, etc. for pleasure

   A) 1 2 3 4 B) 1 2 3 4 5

NOT AT ALL ENJOY			VERY MUCH ENJOY		NEVER ENGAGE			VERY OFTEN ENGAGE	
1	**2**	**3**	**4**		**1**	**2**	**3**	**4**	**5**

7. Watching television

A) 1 2 3 4 B) 1 2 3 4 5

8. Traveling

A) 1 2 3 4 B) 1 2 3 4 5

9. Volunteering

A) 1 2 3 4 B) 1 2 3 4 5

10. Playing games (e.g., board, card, video, computer, etc.)

A) 1 2 3 4 B) 1 2 3 4 5

11. Writing journals, letters, e-mails, poems, or stories

A) 1 2 3 4 B) 1 2 3 4 5

12. Getting together with friends and/or relatives

A) 1 2 3 4 B) 1 2 3 4 5

13. Shopping

A) 1 2 3 4 B) 1 2 3 4 5

14. Recreational sports (e.g., bowling, fishing, hunting, golfing, etc.)

A) 1 2 3 4 B) 1 2 3 4 5

15. Religious activities

A) 1 2 3 4 B) 1 2 3 4 5

16. Going to parties and/or out dancing

A) 1 2 3 4 B) 1 2 3 4 5

NOT AT ALL ENJOY			VERY MUCH ENJOY		NEVER ENGAGE			VERY OFTEN ENGAGE	
1	**2**	**3**	**4**		**1**	**2**	**3**	**4**	**5**

17. Surfing the Internet

A) 1 2 3 4 B) 1 2 3 4 5

18. Attending concerts, plays, musical/dance performances, museums, exhibits, etc.

A) 1 2 3 4 B) 1 2 3 4 5

19. Spending time with your pet

A) 1 2 3 4 B) 1 2 3 4 5

20. Working at a hobby

A) 1 2 3 4 B) 1 2 3 4 5

Scale 7a

For each of the items below, please circle the number that describes how strongly you agree or disagree.

1 – Strongly Disagree
2 – Disagree
3 – Somewhat Disagree
4 – Somewhat Agree
5 – Agree
6 – Strongly Agree

1. There is a special person who is around when I am in need.

   1 2 3 4 5 6

2. There is a special person with whom I can share my joys and sorrows.

   1 2 3 4 5 6

3. My family really tries to help me.

   1 2 3 4 5 6

4. I get emotional support I need from my family.

   1 2 3 4 5 6

5. I have a special person who is a real source of comfort to me.

   1 2 3 4 5 6

6. My friends really try to help me.

   1 2 3 4 5 6

7. I can count on my friends when things go wrong.

   1 2 3 4 5 6

8. I can talk about my problems with my family.

   1 2 3 4 5 6

DISAGREE					AGREE
1	**2**	**3**	**4**	**5**	**6**

9. I have friends with whom I can share my joys and sorrows.

1	2	3	4	5	6

10. There is a special person in my life who cares about my feelings.

1	2	3	4	5	6

11. My family is willing to help me make decision.

1	2	3	4	5	6

12. I can talk about my problems with my friends.

1	2	3	4	5	6

Scale 7b

During the last month, please indicate the frequency with which someone...

	NEVER									ALWAYS	
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	
(Please circle one)											
0 1 2 3 4 5 6 7 8 9											1. Lost his or her temper with me.
0 1 2 3 4 5 6 7 8 9											2. Was rude to me.
0 1 2 3 4 5 6 7 8 9											3. Was insensitive to me.
0 1 2 3 4 5 6 7 8 9											4. Wouldn't let me finish talking.
0 1 2 3 4 5 6 7 8 9											5. Was cold towards me.
0 1 2 3 4 5 6 7 8 9											6. Took my feelings lightly.
0 1 2 3 4 5 6 7 8 9											7. Didn't pay attention to me.
0 1 2 3 4 5 6 7 8 9											8. Was too demanding of my attention.
0 1 2 3 4 5 6 7 8 9											9. Put me down.
0 1 2 3 4 5 6 7 8 9											10. Argued with me.
0 1 2 3 4 5 6 7 8 9											11. Ignored my wishes or needs.
0 1 2 3 4 5 6 7 8 9											12. Seemed bored with me.
0 1 2 3 4 5 6 7 8 9											13. Was inconsiderate of me.
0 1 2 3 4 5 6 7 8 9											14. Tried to get me to do things I didn't want to.
0 1 2 3 4 5 6 7 8 9											15. Got angry with me.
0 1 2 3 4 5 6 7 8 9											16. Tried to manipulate or influence me for his or her own benefit.
0 1 2 3 4 5 6 7 8 9											17. Yelled at me.

						NEVER				**ALWAYS**
						0	**1**	**2**	**3**	**4**
						5	**6**	**7**	**8**	**9**

0 1 2 3 4 5 6 7 8 9	18. Didn't want to be with me.
0 1 2 3 4 5 6 7 8 9	19. Distracted me when I was doing something important.
0 1 2 3 4 5 6 7 8 9	20. Was impatient with me.
0 1 2 3 4 5 6 7 8 9	21. Tried to rush me along.

Scale 8

For each item below, please circle the rating that best describes how you have been feeling during the PAST TWO WEEKS.

STRONGLY DISAGREE	= 1
DISAGREE	= 2
NEUTRAL	= 3
AGREE	= 4
STRONGLY AGREE	= 5

1 2 3 4 5	1.	I have been feeling sad during the past two weeks.
1 2 3 4 5	2.	I have been feeling discouraged about the future.
1 2 3 4 5	3.	I did not feel like a failure in the past two weeks.
1 2 3 4 5	4.	I have been getting as much satisfaction out of things as usual.
1 2 3 4 5	5.	I have been feeling quite guilty most of the time.
1 2 3 4 5	6.	I have been feeling like I am being punished.
1 2 3 4 5	7.	I have been feeling disappointed in myself.
1 2 3 4 5	8.	I have felt as though I am worse than anybody else.
1 2 3 4 5	9.	I have had thoughts of harming myself.
1 2 3 4 5	10.	I have been crying more than usual.
1 2 3 4 5	11.	I have been feeling irritated all the time.
1 2 3 4 5	12.	I have been interested in being with other people.
1 2 3 4 5	13.	I have had greater difficulty making decisions during the past two weeks.
1 2 3 4 5	14.	I feel that I am not as attractive as I was when I was younger.
1 2 3 4 5	15.	I have been able to work as well as usual.
1 2 3 4 5	16.	I have been sleeping as well as usual.

STONGLY DISAGREE 1	2	3	4	STRONGLY AGREE 5		
1	2	3	4	5	17.	I have been feeling more tired than usual.
1	2	3	4	5	18.	My appetite has been normal.
1	2	3	4	5	19.	Lately, I have been more worried about my health than usual.
1	2	3	4	5	20.	I have lost weight without trying to.
1	2	3	4	5	21.	I have been losing interest in sex.

Scale 9a

For each of the items below please circle the rating that best describes how you presently feel about your life.

1 – STRONGLY DISAGREE
2 – DISAGREE
3 – NEUTRAL
4 – AGREE
5 – STRONGLY AGREE

1	2	3	4	5	1. As I grow older, things seem better than I expected.
1	2	3	4	5	2. I am just as happy as when I was younger.
1	2	3	4	5	3. These are the best years of my life.
1	2	3	4	5	4. I get bored with most of the things that I do.
1	2	3	4	5	5. So far, I am satisfied with the way my life is going.
1	2	3	4	5	6. So far, I have in my life what is most important to me.
1	2	3	4	5	7. So far, I am satisfied with what I have accomplished in my life.
1	2	3	4	5	8. I am getting pretty much what I expected out of life.
1	2	3	4	5	9. I expect good things to happen to me in the future.
1	2	3	4	5	10. I am satisfied with my daily routine.

Scale 9b

For each of the following items, please circle the rating that best describes how you have been feeling during the PAST TWO WEEKS.

0 – NEVER
1 – RARELY
2 – SOMETIMES
3 – OFTEN

0	1	2	3	1. I felt sad
0	1	2	3	2. I felt that I had failed as a person
0	1	2	3	3. I felt dissatisfied with my life
0	1	2	3	4. I felt mentally alert
0	1	2	3	5. I felt disappointed with myself
0	1	2	3	6. I felt cheerful
0	1	2	3	7. I felt that life wasn't worth living
0	1	2	3	8. I felt satisfied with my life
0	1	2	3	9. I felt healthy
0	1	2	3	10. I felt like crying
0	1	2	3	11. I felt that I had been successful
0	1	2	3	12. I felt happy
0	1	2	3	13. I felt that I couldn't make decisions
0	1	2	3	14. I felt unattractive
0	1	2	3	15. I felt optimistic about the future
0	1	2	3	16. I felt that life was rewarding
0	1	2	3	17. I felt cheerless

		NEVER 0	1	2	OFTEN 3	
0	1	2	3			18. I felt that life had a purpose
0	1	2	3			19. I felt too tired to do anything
0	1	2	3			20. I felt pleased with the way I am
0	1	2	3			21. I felt lethargic
0	1	2	3			22. I found it easy to make decisions.
0	1	2	3			23. I felt that life was enjoyable.
0	1	2	3			24. I felt that life was meaningless
0	1	2	3			25. I felt run down

Scale 10

Please indicate how strongly you agree or disagree with each statement.

STRONGLY DISAGREE	= 1
DISAGREE	= 2
NEUTRAL	= 3
AGREE	= 4
STRONGLY AGREE	= 5

1 2 3 4 5	1.	When people talk too much and bore me, I try to avoid embarrassing them by listening patiently or finding a tactful way to change the subject.
1 2 3 4 5	2.	I usually wait for other people to speak to me before I speak to them.
1 2 3 4 5	3.	I get embarrassed easily.
1 2 3 4 5	4.	When talking to other people, I am quick to give my opinions.
1 2 3 4 5	5.	When another person is mean to me, I am usually mean back.
1 2 3 4 5	6.	I am able to give constructive criticism to others.
1 2 3 4 5	7.	I resent family members or close friends when they remind me to do daily tasks.
1 2 3 4 5	8.	I feel uncomfortable when someone compliments me for having done something good.
1 2 3 4 5	9.	I worry about what other people think of me.
1 2 3 4 5	10.	I sometimes feel that my opinion is not very important.
1 2 3 4 5	11.	I tend to help many of my friends make decisions.
1 2 3 4 5	12.	When I see a family member or close friend doing something that might be harmful to them I am able to give constructive criticism.
1 2 3 4 5	13.	I often argue with others.

				STONGLY DISAGREE 1	2	3	4	STRONGLY AGREE 5
1	2	3	4	5	14.	I would assume a leadership role if it were necessary.
1	2	3	4	5	15.	I am able to accept constructive criticism from others.
1	2	3	4	5	16.	I am able to respond constructively when others are rude to me.
1	2	3	4	5	17.	I am able to give constructive criticism to a family member or close friend.
1	2	3	4	5	18.	I am able to get involved in group discussions.
1	2	3	4	5	19.	When I am annoyed by someone I am close to and respect I usually hide my feelings.
1	2	3	4	5	20.	Other people think that I am a good thinker.
1	2	3	4	5	21.	If a friend hit me, I would hit back.
1	2	3	4	5	22.	It is easy for me to express love and affection to significant others.
1	2	3	4	5	23.	I usually go along with what others want me to do even if I don't really want to do it.
1	2	3	4	5	24.	I usually wait and let other people organize projects.
1	2	3	4	5	25.	If I left a store and later realized that the cashier had not given me all of my change back, I would go back to the store and ask for the rest of my change.
1	2	3	4	5	26.	I feel that I need to learn to stop letting people tell me what to do.
1	2	3	4	5	27.	When I feel that someone has been unfair, I usually tell that person how I feel.

Scale 11

Please indicate how strongly you agree or disagree with each statement.

STRONGLY DISAGREE	= 1
DISAGREE	= 2
NEUTRAL	= 3
AGREE	= 4
STRONGLY AGREE	= 5

1 2 3 4 5	1.	When I am not satisfied with something I have done, I am still able to feel good about myself.
1 2 3 4 5	2.	I frequently think unhappy things about myself.
1 2 3 4 5	3.	I often blame and criticize myself when things go wrong.
1 2 3 4 5	4.	When I've done something well and feel good about it, I feel encouraged to take on new tasks.
1 2 3 4 5	5.	I find that I feel better when I think positively about myself.
1 2 3 4 5	6.	I keep up my self-confidence by remembering the successes I have had.
1 2 3 4 5	7.	I feel that I have a lot of good qualities.

Scale 12a

For each of the following items, please circle the rating that best describes how you would feel *if it were to occur.*

1 – Very Unpleasant
2 – Moderately Unpleasant
3 – Slightly Unpleasant
4 – Neutral
5 – Slightly Pleasant
6 – Moderately Pleasant
7 – Very Pleasant

1. Being told that I am attractive

1 2 3 4 5 6 7

2. Meeting new people

1 2 3 4 5 6 7

3. Being sexual

1 2 3 4 5 6 7

4. Playing with an animal

1 2 3 4 5 6 7

5. Spending time with a friend or friends

1 2 3 4 5 6 7

6. Interacting with someone who I'm really attracted to

1 2 3 4 5 6 7

7. Exercising

1 2 3 4 5 6 7

8. Taking part in a sporting or recreational event

1 2 3 4 5 6 7

VERY UNPLEASANT						VERY PLEASANT
1	**2**	**3**	**4**	**5**	**6**	**7**

9. Receiving a phone call from a friend

1	2	3	4	5	6	7

10. Hearing a joke

1	2	3	4	5	6	7

11. Having to interact with a person that I do not like

1	2	3	4	5	6	7

12. Being made fun of

1	2	3	4	5	6	7

13. Being given school or homework assignments that are not clear

1	2	3	4	5	6	7

14. Dealing with a person who will not take "NO" for an answer

1	2	3	4	5	6	7

15. Being criticized by a peer

1	2	3	4	5	6	7

16. Being ignored by other people

1	2	3	4	5	6	7

17. Arguing or fighting with another person

1	2	3	4	5	6	7

18. No clean clothes to wear

1	2	3	4	5	6	7

VERY UNPLEASANT						VERY PLEASANT
1	**2**	**3**	**4**	**5**	**6**	**7**

19. Having too much work to do

1	2	3	4	5	6	7

20. Being insulted

1	2	3	4	5	6	7

21. Another person asking to borrow my things (homework, car, clothes, money)

1	2	3	4	5	6	7

Scale 12b

Please indicate how often each of the following events has occurred by circling the most appropriate rating.

1. Being told that I am attractive

   1 – Did not Occur
   2 – Occurred 1x in the last 30 days
   3 – Occurred 2x in the last 30 days
   4 – Occurred 3x in the last 30 days
   5 – Occurred 1x /Week
   6 – Occurred 2x- 6x/Week
   7 – Occurred 1x/Day
   8 – Occurred 2x – 4x/Day
   9 – Occurred 5x or more/Day

2. Meeting new people

   1 – Did not Occur
   2 – Occurred 1x in the last 30 days
   3 – Occurred 2x in the last 30 days
   4 – Occurred 3x in the last 30 days
   5 – Occurred 1x /Week
   6 – Occurred 2x- 6x/Week
   7 – Occurred 1x/Day
   8 – Occurred 2x – 4x/Day
   9 – Occurred 5x or more/Day

3. Being sexual

   1 – Did not Occur
   2 – Occurred 1x in the last 30 days
   3 – Occurred 2x in the last 30 days
   4 – Occurred 3x in the last 30 days
   5 – Occurred 1x /Week
   6 – Occurred 2x- 6x/Week
   7 – Occurred 1x/Day
   8 – Occurred 2x – 4x/Day
   9 – Occurred 5x or more/Day

4. Playing with an animal
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

5. Spending time with a friend
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

6. Interacting with someone who I'm really attracted to
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

7. Exercising
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

8. Taking part in a sporting or recreational event
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

9. Receiving a phone call from a friend
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

10. Hearing a joke
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

11. Having to interact with a person that I do not like
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

12. Being made fun of
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

13. Being given school or homework assignments that are not clear
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

14. Dealing with a person who will not take "NO" for an answer
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

15. Being criticized by a peer
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

16. Being ignored by other people
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

17. Arguing or fighting with another person
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

18. No clean clothes to wear
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

19. Having too much work to do
    1 – Did not Occur
    2 – Occurred 1x in the last 30 days
    3 – Occurred 2x in the last 30 days
    4 – Occurred 3x in the last 30 days
    5 – Occurred 1x /Week
    6 – Occurred 2x- 6x/Week
    7 – Occurred 1x/Day
    8 – Occurred 2x – 4x/Day
    9 – Occurred 5x or more/Day

20. Being insulted

1 – Did not Occur
2 – Occurred 1x in the last 30 days
3 – Occurred 2x in the last 30 days
4 – Occurred 3x in the last 30 days
5 – Occurred 1x /Week
6 – Occurred 2x- 6x/Week
7 – Occurred 1x/Day
8 – Occurred 2x – 4x/Day
9 – Occurred 5x or more/Day

21. Another person asking to borrow my things (homework, car, clothes, money)

1 – Did not Occur
2 – Occurred 1x in the last 30 days
3 – Occurred 2x in the last 30 days
4 – Occurred 3x in the last 30 days
5 – Occurred 1x /Week
6 – Occurred 2x- 6x/Week
7 – Occurred 1x/Day
8 – Occurred 2x – 4x/Day
9 – Occurred 5x or more/Day

Section 12c

Please indicate whether each of the events below has occurred **in the last 6 months** of your life.

YES	NO	1. Death of parent
YES	NO	2. Death of your best or very good friend
YES	NO	3. Jail term (self)
YES	NO	4. Breakup of parents' marriage/divorce
YES	NO	5. Getting kicked out of school
YES	NO	6. Major car accident (car wrecked, people injured)
YES	NO	7. Pregnancy (either yourself or being the father)
YES	NO	8. Failing a number of courses
YES	NO	9. Parent losing a job
YES	NO	10. Major personal injury or illness
YES	NO	11. Losing a good friend
YES	NO	12. Major change of health in close family member
YES	NO	13. Breakup with boy/girlfriend
YES	NO	14. Major and/or chronic financial problems
YES	NO	15. Moving out to town with parents
YES	NO	16. Seriously thinking about dropping school
YES	NO	17. Getting an unjustified low mark on a test
YES	NO	18. Moving out from home

YES	NO	19. Failing a course
YES	NO	20. Beginning an undergraduate or graduate program in university
YES	NO	21. Seeking psychological or psychiatric consultation
YES	NO	22. Major argument with parents
YES	NO	23. Major argument with boy/girlfriend
YES	NO	24. Sex difficulties with boy/girlfriend
YES	NO	25. Establishing new steady relationship with partner
YES	NO	26. Minor car accident
YES	NO	27. Minor financial problems
YES	NO	28. Losing a part-time job
YES	NO	29. Getting your own car
YES	NO	30. Finding a part-time job
YES	NO	31. Change job
YES	NO	32. Minor violation of the law (i.e., speeding ticket)
YES	NO	33. Switch in program within same college or university
YES	NO	34. Family get-togethers
YES	NO	35. Vacation with parents
YES	NO	36. Vacation alone/with friends

Scale 13

Please indicate how strongly you agree or disagree with each of the following statements.

STRONGLY DISAGREE	= 1
DISAGREE	= 2
NEUTRAL	= 3
AGREE	= 4
STRONGLY AGREE	= 5

1 2 3 4 5	1.	I have a good idea what is expected of me.
1 2 3 4 5	2.	I feel that I can say just about anything that is on my mind.
1 2 3 4 5	3.	If I ask someone to do something, they usually do it.
1 2 3 4 5	4.	If I don't want to say anything I don't have to.
1 2 3 4 5	5.	It seems that other people are always telling me what to do.
1 2 3 4 5	6.	When I say or do something, the people around me usually pay attention.
1 2 3 4 5	7.	I'm never sure what is going to happen next.
1 2 3 4 5	8.	What I have to say counts a lot.
1 2 3 4 5	9.	If I don't want to do anything I don't have to.
1 2 3 4 5	10.	What I do makes no difference to the people around me.
1 2 3 4 5	11.	I usually don't have much control over what happens.
1 2 3 4 5	12.	No matter what I say or do, things aren't going to change.
1 2 3 4 5	13.	If someone or something bothers me, I just have to put up with it.
1 2 3 4 5	14.	I can do a lot of different things.
1 2 3 4 5	15.	I'm often able to predict what will happen around me.

Scale 14

Please indicate how strongly you agree or disagree with each of the following statements.

STRONGLY DISAGREE	= 1
DISAGREE	= 2
NEUTRAL	= 3
AGREE	= 4
STRONGLY AGREE	= 5

1 2 3 4 5	1.	Sometimes when I am not feeling well, I get irritable and angry.
1 2 3 4 5	2.	Once in a while I think of things that are too bad to talk about.
1 2 3 4 5	3.	I sometimes feel like swearing.
1 2 3 4 5	4.	Once in a while I laugh at a dirty joke.
1 2 3 4 5	5.	I sometimes get angry.
1 2 3 4 5	6.	Sometimes at elections I vote for men or women whom I know very little about.
1 2 3 4 5	7.	I gossip a little at times.
1 2 3 4 5	8.	There are some people I do not like.
1 2 3 4 5	9.	I like to know some important people because it makes me feel important.
1 2 3 4 5	10.	I would rather win than lose in a game.
1 2 3 4 5	11.	If I could get into a movie without paying and be sure I was not seen, I would probably do it.
1 2 3 4 5	12.	Once in a while I put off until tomorrow what I ought to do today.
1 2 3 4 5	13.	Sometimes I do not tell the truth.
1 2 3 4 5	14.	I am happy most of the time.
1 2 3 4 5	15.	It makes me impatient to have people ask me for my advice or otherwise interrupt me when I am working on something important.

	STRONGLY DISAGREE 1	2	3	4	STRONGLY AGREE 5		
1	2	3	4	5		16.	It doesn't particularly bother me to see animals suffer.
1	2	3	4	5		17.	I usually expect to succeed in things I do.
1	2	3	4	5		18.	I am easily embarrassed.
1	2	3	4	5		19.	I feel anxiety about something or someone almost all of the time.
1	2	3	4	5		20.	I am NOT unusually self-conscious.
1	2	3	4	5		21.	People often disappoint me.
1	2	3	4	5		22.	It makes me nervous to have to wait.
1	2	3	4	5		23.	I shrink from facing a crisis or difficulty.

Scale 15

Please indicate whether you agree or disagree with each of the statements below by circling either T or F.

T F 1. I feel that it is certainly best to keep my mouth shut when I'm in trouble.

T F 2. Sometimes when I was young I stole things.

T F 3. It would be better if almost all laws were thrown away.

T F 4. I think most people would lie to get ahead.

T F 5. I was suspended from school one or more times for bad behavior.

T F 6. Most people are honest chiefly because they are afraid of being caught.

T F 7. In school I was sometimes sent to the principal for bad behavior.

T F 8. Most people will use somewhat unfair means to gain profit or an advantage rather than to lose it.

T F 9. If I could get into a movie without paying and be sure I was not seen I would probably do it.

T F 10. I don't blame people for trying to grab everything they can get in this world.

T F 11. I do not blame a person for taking advantage of people who leave themselves open to it.

T F 12. At times I have been so entertained by the cleverness of some criminals that I have hoped they would get away with it.

T F 13. Most people make friends because friends are likely to be useful to them.

T F 14. If several people find themselves in trouble, the best ting for them to do is to agree upon a story and stick to it.

T F 15. The person who provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who steals it.

T F 16. I think nearly anyone would tell a lie to keep out of trouble.

T F 17. Most people will use somewhat unfair means to get ahead in life.

T F 18. When I was young I often did not go to school even when I should have gone.

T F 19. It is all right to get around the law if you don't actually break it.

T F 20. There are certain people whom I dislike so much that I am inwardly pleased when they are catching it for something they have done.

T F 21. At times it has been impossible for me to keep from stealing or shoplifting something.

T F 22. I have never been in trouble with the law.