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Depression in College Students: Construct Validity of the Student Experience Inventory

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DEPRESSION IN COLLEGE STUDENTS: CONSTRUCT VALIDITY OF THE STUDENT EXPERIENCE INVENTORY

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Angela Kirkland Kramp

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DEPRESSION IN COLLEGE STUDENTS: CONSTRUCT VALIDITY

OF THE STUDENT EXPERIENCE INVENTORY

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This thesis is dedicated to my husband (to-be), Robert, in loving appreciation of his patience, tenacity, reassurance, and selflessness.

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Angela Kirkland Kramp March 1987 80 pages

Directed by: Doris Redfield, Edward Sachs, and Fred Stickle

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Research suggests that the population of undergraduate college students may be especially prone to depression. While the prevalence of depression within the general population ranges from 3 to 9 percent (Boyd & Weissman, 1981), it has been shown that between 15 and 46 percent of undergraduate college students suffer the symptoms of mild to severe depression (Beck & Young, 1978; Oliver & Burkham, 1979). Although depression is prevalent among college students, there are no known instruments yielding indices of depression specific to the college population. In fact, depression measures frequently employed in college settings seldom recognize the unique features of depression among college students (e.g., academic anxiety, scholastic difficulties).

The purpose of this study was to provide validity evidence for the Student Experience Inventory (SEI), which was specifically designed to assess depression among college students. Validation efforts consisted

of: (a) cross validating the internal consistency results yielded by Kirkland and Redfield (1985) and (b) demonstrating the convergent and discriminant properties of the SEI.

The SEI, Beck Depression Inventory (BDI), and Psychological Distress Inventory (PDI) were administered to 153 Introduction to Psychology students. Coefficient alpha for the SEI total scale was .90. Coefficient alphas for each of the seven hypothesized subscales ranged from .41 to .72. Stepwise multiple regression, using SEI scores as the criterion and BDI and PDI scores as the predictors, demonstrated that the best predictor model consisted only of the BDI total score. All Pearson product-moment correlation coefficients reflecting pairwise relationships between variables proved statistically significant ($p<.01$) and ranged from .23 to .61. The correlatin of SEI and BDI scores yielded a coefficient of .61. A principle components factor analysis of SEI items produced eight factors, which cumulatively explained 62 percent of the total variance.

The results of this study suggest that the SEI may prove a useful tool in the measurement of depression in college students. If the SEI is to be used to discriminate between depressed and nondepressed college

students, future research should include investigation of the SEI's ability to detect change in differing populations.

CHAPTER I

Introduction

Research suggests that the population of undergraduate college students may be especially prone to depression. While the prevalence of depression within the general population ranges from 3 to 9 percent (Boyd & Weissman, 1981), it has been shown that between 15 and 46 percent of undergraduate college students suffer the symptoms of mild to severe depression (Beck & Young, 1978; Oliver & Burkham, 1979). It has additionally been reported that one-third of college "drop-outs" demonstrated severe depressive symptoms prior to their withdrawal from school (Luecke & McClure, 1974).

Since not all depressed students seek professional help, the statistics describing the frequency and/or severity of depression among college students may be underestimates. Nonetheless, the reported prevalence of depression among college students implies that these students may experience stressors associated with the college experience, e.g., loss of social support systems, relocation, career decisions, etc.

It has been suggested that depression is so prevalent among undergraduate college students that depressive symptomology may actually constitute the "norm" (Depue & Monroe, 1978). However, the debate over the nature of depression among college students (i.e., normal state of affairs vs. psychological disorder) is not the primary issue. The primary issue is that depressive symptomology is pervasive on college campuses and that pervasiveness has been virtually ignored by researchers (Seligman, 1973). Despite this fact, a review of over 200 articles cited in Psychological Abstracts addressing depression indicated fewer than 10 studies which specifically investigated aspects of depression within the college population.

Despite relatively high rates of depression among college students, minimal emphasis has been placed on the assessment of depression. The depression experienced by these students may well differ from depression among the population at large due to the unique situation in which college students find themselves. Proper assessment appropriate to the specific needs of these students is critical because diagnosis necessarily dictates treatment.

The purpose of this study was to provide validity evidence for the Student Experience Inventory (SEI),

which was specifically designed to assess depression among college students. Validation efforts included (a) cross validation of the internal consistency results yielded by Kirkland and Redfield (1985) and (b) demonstration of the convergent and discriminant properties of the SEI.

CHAPTER II

Review of the Literature

The focus of this study is directed toward accurately measuring depression in college students. In order to adequately assess features of depression that may be unique to college students, the construct must be clarified and defined. Although sparse, the current research on depression in college students relies heavily on theories, models, and instruments derived from depressed adult psychiatric populations. In order to determine the suitability of these conceptualizations of depression for college students, an understanding of the relationship between theory, model, and assessment is important.

A theory can be viewed as a body of scientific principles to explain phenomena. Given that theories are abstract, models serve as a conceptual analogue to aid in the visualization of what cannot be directly observed. Additionally, assessment is employed to evaluate and provide theoretical basis for theories and models. Although models aid in conceptualization of

theories, it is possible to overgeneralize beyond the domain of the model. In response to this difficulty, assessment is also useful in determining this overgeneralization. Therefore a knowledge of the models and instruments utilized with the college setting is necessary to ascertain their relevance to the unique characteristics of depression within this population.

Depression may, in fact, differ across populations in its precise behavioral manifestations. While both depressed psychiatric and college populations may evidence similar behaviors (e.g., lethargy), the expression of this behavior may differ. For example, instruments which assess precise behavioral manifestations of depression specifically derived from adult psychiatric populations may not adequately assess depression within college students. Therefore, a definition of depression as it applies to depression in college students is included.

Definition of Depression

Although opinion on the definition of depression is divided, there is general agreement that the differences in symptoms which exist across the various types of depression (e.g., adjustment disorder with depressed mood, major depression) are not great. In developing a definition of depression for this study, a

number of definitions were considered. Overall, in reviewing the literature on and definitions of depression, it appears that most definitions consider the following elements: a disturbance of mood, marked by subjective feelings of sadness, inactivity, and self-depreciation (Coleman, Butcher, & Carson, 1984).

Another definition of depression is that provided by The Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1980). The Diagnostic and Statistical Manual of Mental Disorders (DSM-III) differentiates between the subtypes of depression on the basis of the intensity and duration of symptoms. Symptoms may include dysphoric mood, loss of interest in daily activities, decreased energy and concentration, and feelings of worthlessness often accompanied by a variety of physical disturbances.

A final definition of depression considered is that of Beck (1967, p.6). Beck (1967, p.6) provides a relatively comprehensive description of the behavioral, cognitive and physicial aspects of depressive symptomology most indicative of depression in college students (Blatt, D'Affitti, & Quinlan, 1976). Beck describes depression in terms of alteration in mood, negative self-concept, self-degradation, neglect of basic self-sustaining requirements, and changes in activity levels. However not all depressive symptoms

or attitudes expressed by college students are included in Beck's description. Utilizing the DSM-III, Beck's criteria, as well as other sources in the literature, the definition for this study is based upon these common elements: a subjective feeling of general unhappiness in which the individual experiences a loss of social and personal pleasure, motivation, negative physiological symptoms, negative affect toward self, feelings of hopelessness and performance difficulties within the academic setting.

General Models of Depression

While depression has been scientifically documented for over two thousand years (Foucault, 1965), until the 20th Century, little was done in terms of formulating clinical theories of depression. Prior to 1900, depression was viewed as demonic possession rather than a psychological disorder. It was not until the 20th century that theories of depression were developed. There are a variety of models for describing depression which fall within two general categories: (a) biochemical and (b) psychological. In general, psychological theories address the interaction of thought and behavior as determinants of depression whereas, biochemical theories emphasize the role of biochemical factors. The models reviewed below are biochemical and psychological in nature.

Biochemical Models

Often, depression which emerges in the absence of a precipitating event is hypothesized to be caused by biochemical factors. Biochemical models of depression are largely based on the assumption that a qualitatively or quantitatively abnormal chemical substance may be causally related to the occurrence of depression. An abundance of biochemical theories have evolved (e.g., Maas, 1979). The most widely researched theories have focused on the disruption of neurochemical substances or proteins (i.e., amines such as catecholamines, indoleamines) which transmit nerve impulses from one neuron to another. Proponents of neurotransmitter imbalance theories (Schildkraut, 1965; Schildkraut & Kety, 1967) suggest that depression is associated with a functional deficit of one or more neurotransmitter amines at critical receptor sites within the central nervous system. Maas (1975) proposes that deficits in the levels of catecholamines or norepinephrine, and indoleamines or serotonin to contribute to depression. In support of the neurotransmitter imbalance theories, drugs (e.g., phenelzine, desipramine) that are known to increase the functional output of norepinephrine and/or serotonin, produce antidepressant effects. However, accurate assessment of depression is required to determine the

appropriateness and potential effectiveness of drug treatment. Some types of depression (e.g., adjustment disorder with depressed mood) may be best treated by psychological interventions and may not be as responsive to chemotherapy.

Psychological Models of Depression

Unlike biochemical models which attribute depression to biochemical factors, psychological models of depression focus on the interation of thought and behavior as determinants of depression. Subsumed under the category of "psychological" are such models as (a) psychodynamic, (b) behavioral and (c) cognitive (Blaney, 1977) which are reviewed below.

Psychodynamic Models. Due to the vague, nonspecific nature of some theoretical concepts, psychodynamic models of depression do not readily lend themselves to direct assessment and empirical investigation. The psychodynamic model of depression, which by nature subscribes to abstract, intangible concepts, has received limited empirical research. Psychodynamic models rely heavily on intrapsychic conflicts (i.e. conflicting motivations within the personality) as the explanation for depression (Bribring, 1953; Freud, 1917). Intrapsychic conflicts are not subject to direct clinical observation, making valid scientific assessment of depression difficult.

Much of the theoretical research of the psychodynamic model is based on observation and inference. Through observation, Freud postulated depression to result from "anger turned inward" due to a loss of a real or imagined loved one. Instead of openly expressing anger toward other persons, the depressive punishes him/herself. While Freud's perspective on depression is the foundation of psychodynamic theory, current models place importance on ego functioning rather than psychosexual development. In support of this trend is Bribring (1953) who argued that depression is not simply the result of anger turned inward; it is additionally a reaction resulting from a discrepancy between the depressive's actual and ideal perceptions of the self. When the depressive is unable to fulfill his/her expectations, a loss of self-esteem is experienced. According to Bribring, self-directed hostility is secondary to depression, with the primary contributor to depression being the depressive's depleted self-esteem. However, Bribring's model fails to address the specificity of depression in college students.

Behavioral Models. Although research evaluating the valid assessment of the psychodynamic model is sparse, behavioral models of depression have enjoyed a great deal of empirical attention. Behavioral theories of depression emphasize the importance of maladative behavior as a precipitator of depression. The ease of measurement of concrete observable behaviors make assessment of the behavioral model highly valid through precisely defined concepts (e.g., maladaptive behaviors).

The most widely researched behavioral treatment theories of depression view depression in terms of extinction and reinforcement principles. The behavioral theories which have attempted to incorporate the college population within their models are reviewed below. These models include: (a) reduction of reinforcement, (b) reduction of social reinforcement, and (c) learned helplessness. The reduction of reinforcement theory of depression, as defined by Lazarus, is "a function of inadequate or insufficient reinforcers (1968, p.84)," which results in the depressive's decreased emission of previously reinforced behaviors. This general model lacks precision and does not specify whether 'inadequate' implies reduced frequency or quality of reinforcement;

nonetheless, the model has served as a springboard for other models of depression.

One derivative of the general reduction of reinforcement model is the reduction of social reinforcement model, most often associated with Lewinsohn (1974). Lewinsohn asserts that depression may occur in conjunction with social skill deficits in obtaining positive reinforcement. Studies of social reinforcement have demonstrated that depressives are much less adept than nondepressives at interacting with others (Libet & Lewinsohn, 1973) and, therefore, experience fewer positive social interactions. Jacobson and Anderson (1982), in fact, found that depressives emitted more inappropriate self-disclosures and made more negative self-statements than non-depressed college students. Such deficits in social skills would serve only to maintain low social reinforcement levels and, hence, the depression. Low rates of positive reinforcement are also assumed to contribute to subjective feelings of sadness associated with depression due to the continued impairment of rewarding social interaction.

A recent evolvement of behavioral theory is Seligman's (1975) model of learned helplessness. Seligman decribes learned helplessness as a "stable behavior pattern characterized by failure to initiate

responses to escape traumatic events and failure to learn that one's own responses could be instrumental in terminating noxious stimuli" (1975, p. 45). Through his observations, Seligman noted that depression resembled learned helplessness. According to Seligman, depressives "learn" that outcomes are noncontigently related to their behavioral responses, thus creating a feeling of helplessness in controlling future events. Seligman concluded that the learned helpessness was the result of apparent unavoidable traumas. Thus a series of inescapable traumas would serve to demonstrate a loss of control over reinforcement to the individual, thereby discouraging the future emittance of potentially reinforcing behavior. As a result, the depressive ceases to make adaptive responses within the environment.

Cognitive Models. While behavioral models emphasize the behavioral causality of depression, cognitive models focus on negative cognitions as the instigating factors in depression. In general, cognitive models of depression place emphasis on negative thoughts (depressive cognitive sets). The depressive's maladaptive behavior is hypothesized to result from these negative thoughts.

A cognitive theorist who has attempted to address the occurrence of depression in the college population

is Beck (1976). Beck's theoretical position presents the depressive "cognitive set" or automatic thought (1967; 1974) as the central feature of depression. The depressive cognitive set includes three components: (a) a negative view of the self, (b) a negative view of the world, and (c) a negative view of the future. For the depressive, events are analyzed through organized, yet inaccurate, patterns of thought or schemata. Beck describes schemata as 1) automatic-- occuring by reflex and without prior reasoning, 2) unreasonable and dysfunctional, 3) appearing plausible and uncritically accepted as valid, and 4) involuntary. Thus it is the depressive's inaccurate cognitive appraisal of the event that precipitates the resulting depression. For example, an event which would not normally precipitate a depressive reaction in a nondepressed individual is often interpreted as such by the depressive.

The depressive's thinking becomes dominated by schemata and produces the emotional, motivational, cognitive, behavioral, and physiological symptoms of depression. Although the symptoms are manifestations of depression, they contribute to the maintenance and aggravation of depression. Such symptoms require immediate identification and treatment in order to avert an increase in depression. Beck asserts that each symptom of depression possesses a reciprocal

relationship with other symptoms. Improvement in one problem area is assumed to generalize into the other areas. However, depressives report a wide variety of symptoms with different intensity and duration. In order to effectively evaluate an individual's depression, an accurate assessment of the component symptoms is necessary for developing a treatment program to deal with target symptoms. The following section surveys a variety of instruments, designed to assess the behavioral manifestations and attitudes characteristic of depressives. While not all models of depression subscribe to the behavioral orientation, behavioral assessment instruments are often employed to assess what cannot be measured directly (e.g., intrapsychic conflicts, negative cognitive sets).

The Assessment of Depression

A particular theoretical model of depression will dictate the definition of depression. In turn, the approach to assessment is dependent on the definition of the construct, as dictated by the model. For example, assessment based on a psychodynamic model may take the form of identifying unconscious conflicts whereas assessment based on a cognitive model may depend on identifying negative cognitive sets. However, abstract concepts, such as unconscious conflicts and negative cognitive sets, are difficult to

measure. Therefore, nonbehavioral models may use instruments that assess observable behaviors with the assumption that those behaviors being assessed reflect the cause of depression as defined by the particular model.

The majority of instruments, while not explicitly purporting to subscribe to a particular model, evaluate the behavioral aspects and symptoms of depression. Any model, regardless of theoretical orientation may employ such an instrument and interpret the findings according to the model. In fact, several different models of depression utilize the same instruments, but attribute causality to their specific theoretical concepts. The question that remains is whether the instruments currently used in the assessment of depression among college students are appropriate for this population. While agreement exists across models of depression concerning depressive symptomatology, the current concepts may lack the specificity to clearly measure and describe the unique aspects of depression in college students.

Much of the research on depression has focused on its identification and classification. Due to the scarcity of depression inventories normed on non-psychiatric clients, one emerging trend in depression research is the use of "normal" populations

to validate inventories originally standardized on psychiatric populations (Burkhart et al., 1984; Brumberry & McClure, 1978; Hammen, 1980). Currently, the most widely used technique for assessment of depression is the self-report, which is based upon information reported by participant. Although declining in popularity, observer scales which require the direct observation of depressive behavior are also used to assess depression. Despite the numerous inventories available for assessing depression, only widely used measures possessing adequate psychometric properties are reviewed below. The reviewed instruments were selected on the basis of their purported internal consistency, and/or test-retest reliabilty and extensive clinical application to the assessment of depression in college students.

Beck Depression Inventory

The most popular of the self-report inventories, according to Paykel (1982), is the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbagh, 1961). The Beck Depression Inventory (BDI) consists of 21 items, each containing 4 distractors ranked in order of severity of depression. The BDI items are scored from 0 to 3 respectively, with 0 indicating the absence of depression and 3 indicating severe depression. With a maximum score of 63 (21 items x 3 possible points),

levels of severity are categorized based on the following range of total scores: 1) 0-9 not depressed, 2) 10-14 mildly depressed, 3) 15-23 moderately depressed and 4) 24-63 severely depressed.

Zung Self-Rating Depression Scale

Another popular self-report inventory is the Zung Self-Rating Depression Scale (Zung, 1965). The Zung Self-Rating Depression Scale (SDS) consists of 20 items which either reflect the presence or absence of depression which are evenly distributed throughout the instrument. In administering the scale, subjects are instructed to rate themselves on each of the 20 items, responding to one of four distractors. Response alternatives are as follows: 1) a little of the time, 2) some of the time, 3) good part of the time, and 4) most of the time. In scoring, values of 1 to 4 are assigned respectively to the forementioned distractors. Items indicating the absence of depression are scored in reverse order. Although the SDS is used extensively (Paykel, 1982), research (Downey & Rickles, 1972) suggests that it is not a satisfactory measure of depression due to the inconsistent reports of concurrent validity coefficients. Downey and Rickles (1972) obtained a correlation of .45 between the SDS total score and clinical diagnosis of depression, while Zung (1974) and Brown and Zung (1972) respectively

obtained correlations of .56 and .79 between SDS scores and clinical diagnosis.

Center for Epidemiological Studies Depression Scale

A third self-report instrument, which draws all of its 20 items from the BDI and SDS, is the Center for Epidemiological Studies Depression Scale (Radloff, 1975). The Center for Epidemiological Studies Depression Scale (CES-D) was developed to measure depressive symptomology in epidemiologic studies of general populations. Items were selected on the basis of representative symptoms as determined by clinical literature and factor analytic studies. Specific references to literature and the factor analytic studies employed were not cited. In administering the inventory, subjects are instructed to rate themselves on each item using a 4 point scale corresponding to the following distractors: 1) rarely, 2) a little, 3) moderate, and 4) most. Scoring consists of the addition of the values which range from 0-3, corresponding respectively to the forementioned alternatives. Radloff (1977) reports coefficient alphas for the CES-D of .85 in general populations and .90 in psychiatric patient samples. The correlation between CES-D scores and an unspecified number of nurse-clinician ratings of depression severity has been reported as .56 (Craig & Van Natta, in press).

Psychological Distress Inventory

A fourth self-report inventory, although not specifically designed to measure depression, is the Psychological Distress Inventory (Lustman, O'Hara, & Sowa, 1984). The Psychological Distress Inventory (PDI) assesses common symptoms reported by college students seeking professional intervention (i.e., depression, anxiety, somatic discomfort, and stress). The PDI is an objectively scored instrument consisting of 50 items indicating potentially stressful events. Four scales are contained within this inventory, measuring the degree of reported 1) depression, 2) anxiety, 3) somatic discomfort, and 4) stress. Each item is scored for its perceived aversiveness (1= not at all aversive to 5= completely aversive). Scores are then determined by adding the ratings within specific subscales.

Hamilton Rating Scale for Depression

A fifth popular scale employed in the assessment of depression is the The Hamilton Rating Scale for Depression (Hamilton, 1960). The Hamilton Rating Scale for Depression (HRSD) is not a self-report scale; rather, it is one of the most popular observer scales and estimates severity of depression based on clinical ratings by the examiner through observation. The HRSD consists of 17 items, representing the most common

symptoms (e.g., withdrawl, apathy, depressed mood) of all types of depression (Mendels, 1968). Hamilton recommends at least a 1/2 hour interview in which to assess the various levels and/or the presence of the symptoms of depression. Validity studies have reported a correlation of .84 between scores on the HRSD and psychiatric clinical judgements. Hamilton has also reported inter-rater reliability of the HRSD to be approximately .90. A study by O'Hara and Rehm (1983) reported an intraclass correlation for the scale's total score of .91 for four trained, expert raters and .76 for three inexperienced novice raters. Intraclass correlation assesses the relationship among ratings for a given number of subjects by a given number of raters. O'Hara and Rehm concluded that with minimal training, novice raters may make reliable judgements of the severity of depression employing the HRSD.

Inadequadies of Depression Measures

Although mild to severe depression is prevelant among college students, there are no known depression indices especially designed for this population. The absence of suitable depression measures makes the accurate assessment and detection of depression in college students difficult.

Current depression inventories present several concerns when used to assess the college population.

One concern is that a majority of inventories are highly face-valid, transparent measures of depression and are subject to response bias. For example, Hatzenbuehler, Parpal, and Matthews (1983) found the BDI to possess poor classification consistency for college students across repeated administrations. Subjects initially classified as moderately depressed by their BDI score failed to be classified within the same range after retesting within the same day. It was concluded that procedure factors (e.g., prior exposure to the test) to, perhaps, affect the test re-test reliability and its consistency in classifying the severity of depression, due to subject response bias (i.e., "faking").

A second concern regarding the inadequacies of depression measures for use with college students is that although component factors measured by depression inventories (e.g., Reynolds & Gould, 1981) are considered to support a multidimensional view of depression, not all domains uniquely relevant to depression within the college population are sampled. For example, feelings of hopelessness and decreased motivation and energy, which are common manifestations of depression in college students, are not consistently assessed (Blatt et al., 1976).

A third concern is that depression inventories do not recognize the unique features of the college setting, which may influence the assessment of the college population. Items are often worded in generic terms and do not directly address the specific experiences characteristic of the college setting. For instance, items addressing daily activities unique to college students (e.g. school performance, class attendance) may ellicit more pertient information than items measuring general areas of depression (e.g. motivation, energy levels).

Finally, many depression inventories disregard the duality of certain physiological reactions. For example, one item on the BDI assesses decreases in sleep. While some depressed individuals experience a decrease in sleep, an equal number report excessive sleeping when depressed (Hauri, Chernik, Hawkins, & Mendels, 1974). In view of the inadequacies of the forementioned measures, the Student Experience Inventory (SEI), as described below, was developed.

Student Experience Inventory

The Student Experience Inventory (SEI), as shown in Appendix A, was developed precisely for the measurement of depression in college populations. The SEI was designed by selecting and generating items considered representative of each of the following

categories: (a) negative affect toward self, (b) negative physiological symptoms, (c) general unhappiness, (d) performance difficulties, (e) loss of personal and social pleasure, (f) loss of energy, and (g) hopelessness. The SEI items by hypothesized subscales are shown in Appendix B. The forementioned categories were selected on the basis of: (a) the BDI's five factors (Reynolds & Gould, 1981), considered to be representative of depression in college students and (b) two additional factors (i.e., loss of energy, hopelessness) hypothesized as representative of depression in college students. All items reflecting each of the forementioned categories were selected from various scales demonstrating evidence of validity in assessing depression (i.e., BDI and Minnesota Multiphasic Personality Inventory). Only items considered to measure each of the individual categories were chosen and re-worded to reflect the nuances of the college setting. For example, " I have difficulty in starting to do things" from the MMPI was reworded to read "I have difficulty in starting to study for an exam."

The resultant pool of items was reviewed by three professional staff members of the Western Kentucky University Counseling Services Center considered knowledgeable in the area of depression. Items were

then examined by three students within the college population to judge the clarity of items. Utilizing the feedback, items were either discarded or revised. A second draft of the SEI was again reviewed by the three Counseling Center staff members to insure agreement on the adequacy of the domain sampling.

Questionnaire items were scaled using a Likert (1932) procedure. Response alternatives were assigned letters ranging from A to E which corresponded to the following descriptors: (A) very characteristic of me, (B) characteristic of me, (C) neither characteristic nor uncharacteristic, (D) uncharacteristic of me, and (E) very uncharacteristic of me. Each of the five scale anchors, is assumed to divide the variable into five classes ordered with respect to the presence of the construct, viz., depression.

Letters, as opposed to numbers, were chosen to emphasize response choices so as to emphasize the qualitative rather than quantitative value of the item response options. In scoring items, values ranging from 4 to 0 were assigned to each respective letter A to E (i.e. A=4, E=0). In the case of statements indicating the absence of depression scoring was reversed. Items reflecting the presence vs. absence of depression were distributed throughout the inventory to lessen the probabiltiy of a response bias.

Pilot Testing Procedures

The SEI was administered to 62 college students enrolled in two sections of Introduction to Psychology at Western Kentucky University. Upon entering the classroom, each participant was asked to complete the BDI and SEI. Presentation order of the instruments was counterbalanced.

Analysis of Items

Items within the SEI were analyzed by means of item-total correlations to determine the degree of relationship between each item and the construct measured by the SEI. The four items with the highest item total correlations within each of the seven hypothesized subdomains were selected for inclusion; the remaining items were deleted from the SEI. Four items per domain for the subsequent version of the SEI were chosen in order to maintain the highest degree of reliability, while also maintaining the least number of items. Coefficient alpha was computed to assess internal consistency of the SEI and for each of the seven subdomains. The item total correlations for the 56 piloted items contained within the SEI ranged from -.06 to .68; coefficient alpha for the total scale was .90. A second item analysis was conducted after deleting all but the four items having the highest item total correlations within each subdomain. Item total

correlations, then, ranged from .28 to .68 across subdomains. After item-deletion, coefficient alpha for the total acore was .91.

A Pearson product-moment correlation coefficient was calculated to assess the degree of association between the SEI and BDI in order to provide evidence for the concurrent validity of the SEI. The Pearson product moment correlation coefficient describing the relationship between SEI and BDI scores was .85. The Pearson product moment correlation coefficient relecting the relationship between BDI and revised SEI total scores was .80.

Implications of the Student Experience Inventory

As a result of their findings, Kirkland and Redfield (1985) concluded that further development of the SEI might allow for the assessment of those aspects of depression specific to the college population. Although the BDI and SEI appeared to measure similar subdomains, the decreased correlation between the revised SEI and BDI, from .85 to .80 resulting from item delination, implies that the SEI measures a construct similar, but not identical, to the construct measured by the BDI. These results suggest that depression in college students may, in fact, differ from depression in other populations in that the SEI appears to include measurement of an aspect of

depression not assessed by other popular measures of depression.

The SEI reveals promising implications for the development of a depression scale for specific use within college settings. However, two concerns remain regarding the adequacies of the SEI. One concern is the generalizability of the SEI results to populations other than the development sample. Replication of the Kirkland and Redfield study (1985) regarding internal consistency is needed to cross validate results. A second concern involves the validity of the SEI as an actual measure of depression in college students. The convergent and discriminant validity of the SEI is necessary for evaluating its ability to measure aspects of depression specific to the college setting. The concerns addressed in this study pertain to the cross validation, convergent validity, and discriminant validity of the SEI

Cross Validation. In order for an instrument to be useful, it must first demonstrate its applicability to samples of examinees other than the development sample. One means by which the SEI's generalizability to other samples could be demonstrated would be to re-administer the SEI to another student population and examine the similarity of statistics (i.e., coefficient alpha, item-total correlations) yielded by the two

samples. A significant coefficient alpha, not substantially lower than the coefficient yielded by the pilot sample, would provide evidence that the original findings did not occur by chance (Ghiselli, Campbell, & Zedeck, 1981).

Convergent Validity Evidence. An instrument is only useful when it measures the intended construct. A means by which to demonstrate that an instrument does in fact measure the intended construct is to examine the relationship between scores yielded by that instrument and scores yielded by another instrument designed to measure a similar construct. Sufficient evidence for convergent validity would be demonstrated by a significant positive correlation between the scores on the two instruments.

Discriminant Validity Evidence. To demonstrate evidence of discriminant validity, it must be shown that an instrument is not significantly correlated with instruments measuring similar constructs. In order to provide evidence for discriminant validity a relatively low, nonsignificant correlation between the scores of the two instruments must be demonstrated.

Purpose of the Study

Depression has been identified as the most common psychological disorder within college students (Beck & Young, 1978) and determined to be rapidly increasing in

frequency within this population (Seligman, 1973). Although depression is prevalent among college students there are no known instruments yielding indices of depression specific to the college population. In fact, depression measures frequently employed in college settings seldom recognize the unique features of depression among college students (e.g. performance anxiety, truancy).

The purpose of this study was to provide evidence for the construct validity of the SEI by: (a) cross validating Kirkland and Redfield's (1985) findings regarding the internal consistency of the SEI, and (b) demonstrating the convergent and discriminant properties of the SEI. It was hypothesized that (a) The internal consistency of the SEI would yield a significant coefficient alpha, similar in value to that yielded by the pilot sample (Kirkland & Redfield, 1985), (b) The Pearson product moment correlation assessing the relationship between the SEI and BDI total scores would be significant and positive, (c) The Pearson product moment correlation coefficients assessing the relationship between the SEI total score and the four PDI subscale scores would be relatively low and nonsignificant, (d) Stepwise multiple regression procedures would indicate the BDI to be the best predictor of SEI total scores, and (e) Factor

Analysis would verify the SEI's seven hypothesized subscales.

CHAPTER III

Method

Participants

Participants in this study were 153 college students (49 males and 104 females) each of whom were enrolled in one of six sections of Introduction to Psychology at Western Kentucky University. The ages of the participants ranged from 17 to 50 years, with a mode age of 18 years. Eighty-seven percent of the participants (n=133) were between 17 and 22 years old; 9 percent (n= 14) were older than age 30. Participants were classifed as to level of depression according to BDI total scores which indicated that 17.6% (n= 27) of the participants fell within the mild range of depression, 10.4% (n= 17) within the moderate range and 2.6% (n= 4) within the severe range of depression.

Instruments

Student Experience Inventory (SEI)

The Student Experience Inventory (SEI) was developed to measure the severity of depression in a particular, and perhaps unique, population (viz., college students). The SEI is a self-report questionnaire consisting of 28 items in Likert-scale format. Scale values ranged from 4 to 0 and were

labeled from A to E, respectively. Subsets of items were developed to reflect seven aspects of depression: a) negative affect toward self, b) negative physiological symptoms, c) general unhappiness, d) performance difficulties, e) loss of personal and social pleasure, f) loss of energy, and g) hopelessness. In scoring items on the SEI, values ranging from 4 to 0 were assigned to each respective response alternative, letters A to E (e.g., A=4, E=0). In the case of statements indicating the absence of depression, the scoring was reversed, such that E=4 and A=0. Response values were then added to derive the total score.

In a pilot study, the Pearson product-moment correlation between SEI and BDI scores was .80. This suggests that the SEI measures a similar, but not identical construct (viz., depression) measured by the BDI. Coefficient alpha for the SEI was .91 (Kirkland & Redfield, 1985).

Beck Depression Inventory (BDI)

The Beck Depression Inventory (Beck, Mendelson, Mock & Erbaugh, 1961) provides a measure of depression severity and in this study, was used to demonstrate the convergent properties of the SEI. The BDI and SEI appear to measure similar constructs as demonstrated by a correlation of .80 between scores on the two

instruments (Kirkland & Redfield, 1985). Thus, the BDI appears to be an appropriate measure to provide evidence for the convergent properties of the SEI. In their original scale development, Beck et al. (1961) reported a split-half reliability of .93 for the BDI. This coefficient was based on a sample of 97 psychiatric patients. Brumberry, Oliver and McClure (1978) reported a Pearson product-moment correlation of .77 between scores on the BDI and clinician generated psychiatric ratings of college students. Based on the findings that the BDI was able to concurrently predict depression, Brumberry et al (1978) concluded the BDI to be a valid measure of depression for use in college populations.

Psychological Distress Inventory

The Psychological Distress Inventory (Lustman, O'Hara & Sowa, 1984) was designed to measure life stress in college students and was the measure employed, in this study, to demonstrate the discriminant validity of the SEI. The Psychological Distress Inventory (PDI) was considered appropriate for providing evidence of the discriminant properties of the SEI, because the SEI and PDI purport to measure different constructs (i.e., depression vs. life stress). The PDI separately assesses the severity of

depression, anxiety, somatic (bodily) discomfort, and stress level.

The PDI consists of a total of 50 items in five-point Likert-scale format. Each item describes a potentially stressful event experienced within the past year and is rated by respondants as to its aversiveness (1= not aversive at all; 5= extremely aversive). Scores are then determined by adding the ratings within the specific scales. Test-retest reliabilities over a six week interval ranged from .72 to .83 across subscales . Split-half correlations,providing estimates of internal-consistency, ranged from .61 to .73 across subscales (Lustman, Sowa & O'Hara,1984).

Procedures

The SEI, BDI, and PDI were presented by the SEI developer to students enrolled in six sections of Introduction to Psychology at Western Kentucky University. Three class sections were tested within their own classroom during classtime, while the remaining three sections reported to a reserved classroom outside of their regular classtime. Upon entering the room, each participant was asked to complete the SEI, BDI, and PDI. Participants were given no time limit in which to complete the instruments, but were informed that the average time needed to complete the instruments was approximately 30 minutes to one

hour. Presentation order of the three instruments was counterbalanced.

Students were asked to sign an "informed consent" form, a copy of which appears in Appendix C. This form explained that participation was voluntary and that participants could withdraw at any time from the study without penalty. Students were also informed that their participation and questionnaire results would remain confidential and that the obtained data would be used strictly within a research context. No information which might identify the participant was present on the inventories so as to protect the privacy of the subjects. Students were informed that the study entailed investigating the usefulness of an inventory specifically designed for college students.

Analyses

The coefficient alpha statistic was used to demonstrate the internal consistency of the SEI. Coefficient alpha was also calculated for each of the seven hypothesized subscales using the Subprogram Reliabiltiy of the Statisical Package for the Social Sciences (Hull & Nie, 1981). Evidence for the convergent and discriminant properties of the SEI was obtained using Stepwise Multiple Regression and zero-order correlation procedures. SEI scores functioned as the criterion measure; BDI scores and the

four PDI subscales scores functioned as the predictor measures.

Factor analytic procedures were performed, utilizing the Subprogram Factor Analysis of the Statisical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975), to condense the information of the SEI and describe the factorial composition of the inventory. Factor analytic procedures were also employed to investigate the construct validity of the SEI and to verify the hypothesized seven factor structure of the SEI. An oblique rotation was used in order to allow the items to correlate freely, rather than to be forced into an independent, orthogonal solution. The resulting factor patterns were used to determine the actual factorial composition of the instrument.

CHAPTER IV

Results

The item-total correlations for the 28 items of the SEI ranged from .28 to .62 and are shown in Table 1. Coefficient alpha for the total, 28 item scale was .90. Alpha coefficients for the seven hypothesized subscales ranged from .41 to .72 and are presented in Table 2. Item-total correlations for each of the hypothesized subscales are presented in Appendix D.

Table 1

Student Experience Inventory Item-total Correlations

Item	r	Item	r
1	.39	15	.51
2	.36	16	.55
3	.50	17	.62
4	.38	18	.27
5	.45	19	.53
6	.50	20	.52
7	.49	21	.54
8	.45	22	.35
9	.53	23	.47
10	.28	24	.39
11	.43	25	.41
12	.41	26	.53
13	.57	27	.58
14	.42	28	.57

Table 2

Alpha Coefficients of SEI Subscales

Subscale	alpha
1	.68
2	.65
3	.64
4	.63
5	.41
6	.61
7	.72

The Stepwise Multiple Regression procedure of the Statistical Package for the Social Sciences (Hull & Nie, 1981), demonstrated that the best predictor model for total SEI scores consisted only of the BDI total score. Results of the Stepwise procedure are shown in Table 3. Pearson product-moment correlation reflecting pairwise relationships between variables are shown in Table 4. All of the Pearson coefficients proved statistically significant ($p < .01$).

Table 3

Stepwise Multiple Regression Summary Table with SEI Total Score as the criterion variable and BDI Total Score and PDI Subscale Scores as the predictor variables

Scale	df	SS	MS	F
Total	152	50,904.25		
Regression	1	18,987.53	18,987.53	89.83 *
BDI	1	18,987.53	18,987.53	89.83 *
Residual	151	31,916.72	211.37	

* $p < .001$

Table 4

Pearson Product-moment Correlation Coefficients

	BDI	PDI1[a]	PDI2[b]	PDI3[c]	PDI4[d]
SEI	.61	.29	.19	.29	.23
BDI		.36	.22	.34	.32
PDI1			.72	.82	.82
PDI2				.68	.80
PDI3					.86
PDI4					

Note: all correlations are significant ($p < .01$).

a: depression

b: anxiety

c: somatic discomfort

d: stress level

A Principal Component Factor Analysis, using the Statistical Package for the Social Sciences, of the SEI items failed to verify its seven hypothesized subscales. Results of the first interation analysis produced eight factors with eigenvalues greater than 1.00. These eight factors cumulatively explained 62 percent of the total variance SEI scores. In the second interation analysis, factors were rotated obliquely. Oblique solutions are desirable when items are

inter-related. Eigenvalues, yielded by the second iteration, oblique rotation, ranged from 7.22 to .50 and are ahown in Table 5. Factor loadings for each item by factor are shown in Table 6. Specific items within each factor are shown in Appendix E.

Table 5

Eigenvalues and Percentage of Variance accounted for by factors in Total SEI Scores.

Factor	Eigenvalue	Percentage of Variance
1	7.22	54.1
2	1.32	9.9
3	1.25	9.4
4	.98	7.4
5	.81	6.1
6	.68	5.1
7	.57	4.3
8	.50	3.8

Table 6

Factor Loadings for Each SEI Item by Factor[a]

Factor 1	Item Number	Loading
	11	.625
	13	.595
	25	.566
	7	.456
Factor 2	**Item Number**	**Loading**
	1	.673
	23	.628
	28	.538
	4	.465
	*17	.439
Factor 3	**Item Number**	**Loading**
	14	.768
	22	.615
	24	.443
	10	.382
Factor 4	**Item Number**	**Loading**
	2	-.799
	16	-.698

Factor 5	Item Number	Loading
	27	-.732
	5	-.686
	3	-.489

Factor 6	Item Number	Loading
	8	.703
	21	.571
	6	.523
	*19	.412
	12	.393

Factor 7	Item Number	Loading
	18	.357

Factor 8	Item Number	Loading
	9	-.775
	15	-.735
	20	-.584
	26	-.492

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a: unless noted with an asterisk (*), items are listed with the factor on which they loaded most highly

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CHAPTER V

Discussion

Four issues were addressed regarding the construct validity of the SEI: (a) internal consistency, (b) convergent validity, (c) discriminant validity, and (d) factor structure.

Internal Consistency

The SEI proved internally consistent across different samples, as evidenced by the coefficient alpha statistic (r= .90) yielded by both the pilot study (Kirkland & Redfield) and present study. This suggests that the SEI is an internally consistent measure of depression across samples of college students. The results also support the hypothesis that the original findings of the pilot study did not occur by chance.

The seven hypothesized subscales of the SEI also demonstrated internal consistency as evidenced by the significant coefficient alpha statistics. However, subscale 5 (viz., loss of personal and social pleasure) demonstrated the lowest coefficient alpha (alpha= .41) of the hypothesized subscales. This relatively low

coefficient does not necessarily demonstrate inadequate subscale reliability but merely that items contained in Scale 5 may measure a trait of depression that is less homogenious than the items within the remaining subscales. While the items of Subscale 5 demonstrated less interrelatedness than the items of the other hypothesized subscales, the items demonstrate significant correlations with the total score, (r= .27 to .39) thus contributing to the internal consistencny of the overall test.

Convergent Validity

Stepwise Multiple Regression was used to investigate the relationship among the SEI, BDI, and the four PDI subscales. The stepwise procedure identified the BDI as the single best predictor model for SEI total scores. The Pearson product-moment correlation coefficients describing the relationship between each pair of measures were all significant and in a positive direction with the SEI and BDI demonstrating the highest degree of relationship (r= .61). Results of the stepwise procedure and Pearson product-moment correlations suggest that the SEI and BDI are measuring similar constructs.

Discriminant Validity

The four subscales of the PDI were used to provide evidence of the SEI's discriminant validity. The

Pearson product-moment correlation coefficients, describing the zero order relationships between each of the PDI subscales and the SEI scores, were positive and statistically significant. The PDI subscales also demonstrated significant positive correlations with the BDI. The correlations between BDI and PDI scores are greater in magnitude than the relationsips between the SEI and PDI scores.

Although each of the four PDI subscales demonstrated significant, positive correlations with the SEI, the variance shared between these subscales and the SEI is less than the variance shared between the BDI and SEI. Within the stepwise procedure, only the unique variance of the PDI, not shared with from the BDI, is considered. Only those measures which account for the most unique variance would enter the prediction equation. None of the four PDI subscales entered the stepwise multiple regression equation suggesting that the subscales are not a significant predictor of SEI total scores.

Factor Structure

A principle components factor analysis of the SEI items yielded eight factors and failed to confirm the seven hypothesized subscales. However, such results do not invalidate the SEI's appropriateness for measuring unique aspects of depression in college students.

Several reasons may account for the failure of the principle components factor analysis to confirm the seven hypothesized subscales. First, five of the seven hypothesized factors of the SEI were selected from a factor analytic study of the BDI (Reynolds & Gould, 1982) using adult participants from a methadone maintenance drug rehabilition program. Although the samples from the present study and the study by Reynolds and Gould were roughly equivalent in level of depression, as assessed by the BDI, the samples may experience vast differences in symptomology due to their differencee in presenting problems (e.g., drug dependent sdults vs. college students). Given the two samples are not matched, the resultant factors obtained from the Reynolds and Gould study may not be appliciable to the college population.

A second reason for the failure of the factor analytic procedure to confirm the SEI's hypothesized factors is the type of factor rotation. Differences exist between the types of rotations used by Reynolds and Gould compared to the present study, which makes comparison between these studies unreliable. The rotation of factors employed within Reynolds and Gould's study was orthogonal (i.e., Varimax) while the present study employed an oblique rotation. Traditionally, orthogonal rotations are utilized with

independent or uncorrelated factors, whereas, oblique rotations are used with dependent or correlated factors. As with psychological constructs, such as depression, the majority of factors are indeed intercorrelated and require an oblique rotation. When orthogonal axes are imposed on traits that are obiquely related, both the correctness of the factor pattern and its consistency from one study to another is destroyed. As a result of the rotation procedure employed by Reynolds and Goulds, the resultant factors may be inaccurate. The following is a description of factors resulting from an oblique rotation factor analysis of the SEI items.

As components of depression in college students, the factors yielded within the present study may be viewed as (1) academic performance anxiety, (2) social dissatisfaction, (3) academic dissatisfaction, (4) sleep disturbances, (5) degree of self-confidence/motivation, (6) academic performance difficulties and, (7) hopelessness. The specific items contained within each factor are shown in Appendix E. After examining the similarity of target symptoms measured SEI items per factor loadings, Factors 2 and 7 were combined and renamed Factor 2.

Factor 1, which accounted for the greatest amount of variance in SEI scores ($r = .541$), has been labeled

"academic performance anxiety." Items demonstrating high loadings (i.e., r> .46) on this factor reveal negative physiological symptoms in relation to concern about academic performance. It appears that a characteristic of depression in college students is a relatively high level of the concern or anxiety resulting from a desire to succeed within the academic setting. This concern may be well founded considering the fierce competition within graduate schools and the current job market. College students may feel pressured to maintain high academic standards in order to be successful within their future occupational fields.

Factor 2 was labeled "social dissatisfaction" and accounted for 9.9 percent (r= .315) of the total variance in SEI scores. Items demonstrating relatively high loadings on this factor pertained to low levels of satisfaction in social interactions. Factor 2 also includes the original Factor 7 which accounted for 4.3 percent (r= .207) of the total variance. Only one item loaded highly on this factor (i.e., "Parties aren't as fun as they used to be"), but shared several items in common with Factor 2 (social dissatisfaction). Both the original Factors 2 and 7 appear to be explaining a similar aspect of depression and are considered a single factor, i.e., Factor 2.

The items in Factor 2 predominantly convey feelings of social rejection and isolation. It appears that not only do depressed college students suffer from academic pressures and difficulties, but also lack social support systems in which to lessen feelings of depression. In response to academic pressures, students may, perhaps, withdraw from extacurricular activties and as a result decrease their opportunities for friendship formation and emotional support.

Factor 3 was labeled "academic dissatisfaction" and accounted for 9.4 percent (r= .306) of the total variance in SEI scores. Items demonstrating high loadings on this factor seemed to denote dislike for the academic setting. One item, "I am happy in school a great deal of the time", which demonstrated the highest loading on this factor (r = -.768), clearly indicates dissatisfaction with college. Although this item is worded to indicate the absence of depression, scoring is reversed such that a high loading would indicate that the statement is most uncharacteristic of depressed college students. It appears that college students are not only experiencing anxiety towards academics, but also find them unpleasant.

Factor 4 was labeled "sleep disturbances" and accounted for 7.4 (r= .272) percent of the total variance. Within this factor, all items (n= 2)

demonstrated negative loadings. The item "My sleep is fitful and disturded" yielded the highest loading on this factor (r = -.799). The item "I have vivid unhappy dreams which disturb me while asleep" yielded the second highest loading on the factor (r= -.698). The negative direction of the factor loading presents one of two interpretations: (1) depressed students experience few sleep disturbances, or (2) the majority of students, regardless of the level of depression, experience sleep difficulties. An examination of the mean item responses found the mean response of items within this factor to fall between the anchors "very characteristic of me" and "characteristic of me," supporting the second interpretation. Thus, it appears that many participants in this study experience sleep disturbances independent of the level of depression.

Several explanations may account for sleep disturbances in college students. First, many students entering college may experience for the first time a separation from home, making the adjustment to a "dorm" room difficult. Second, dormitories are noted for their high level of activity and noise. Such disruption could undoubtedly disturb even the soundest sleeper.

Factor 5 was labeled "low level of self-confidence" and accounted for 6.1 (r= .247)

percent of the total variance in SEI scores. Items loading relatively high on this factor indicate a degree of self-doubt in the academic setting. Again, all items within this factor demonstrated negative loadings, indicating either the presence of self-confidence in depressed students or the lack of self-confidence across a majority of college students within the sample. The mean item responses within this factor fell between the anchors "very characteristic of me" and "characteristic of me," implying low levels of self-confidence across the sample. The large proportion of first year students may account for this trend. The newness of the college setting, which stresses the personal responsibility of the student, may instill uncertainty in the ability to succeed educationally.

Factor 6 was labeled "performance difficulties" and accounted for 5.1 percent (r= .226) of the total variance in SEI scores. Items having relatively high loadings on this factor reveal impairment in concentration, comprehension, and motivation within the academic setting. It appears that depressed students are not only anxious about college but also have difficulty in meeting academic demands. The combination of anxiety, dislike for academics and lack

of self-confidence may easily create performance difficulties.

Factor 7 was labeled "hopelessness" and accounted for 3.8 (r= .195) percent of the total variance in SEI scores. Items within this factor express themes of loss of control and helplessness in affecting the future. All items loaded negatively on this factor, conveying either no feelings of hopelessness in depressed students or feelings of hopelessness across the sample of students. The mean item responses fell within the anchors "very characteristic of me" and "characteristic of me," indicating that participants in this study report feelings of hopelessness within the academic setting regardless of the level of depression. Again, the large proportion of first year students may explain this trend. First year students may be unsure of professors' expectations and may feel that success in college is dependent on external forces, thus instilling a sense of hopelessness within the academic setting.

Summary/Conclusions

In conclusion, this study did provide evidence to support the construct validity of the SEI, i.e., that the SEI appears to be a valid measure of depression in college students. However, given the sparse research

within the area of college student depression, the results of the present study should be interpreted with caution. Nonetheless, the SEI does appear to measure a unique aspect of depression. Given that the process of validation is ongoing, the following suggestions are offered to further evaluate the validity of the SEI.

Based on results from the present and previous study (Kirkland & Redfield, 1985), the SEI appears to be a reliable measure of depression in college students. However, the results of self-report instruments are often confounded by the response bias of the participants. In response to this difficulty, it is suggested that future studies incorporate a measure of social desirability to investigate the effects of response bias on the validity of test results. Additionally, the results from both studies were obtained from similar samples of students (i.e., Freshman students enrolled in Introduction to Psychology), not entirely representative of the whole student population. It is suggested that generalizability of the findings be investigated through replication studies with different levels od college students across various majors.

Given that the SEI is purported to measure depression unique to college students, it is important to investigate the SEI's sensitivity to change. Noting

that Factor 1, which accounted for the greatest amount of variance, was labeled "perfromance anxiety" it would be interesting to investigate if the SEI is also measuring anxiety. It is suggested that future studies include the administration of a measure of anxiety (e.g., IPAT Anxiety Scale) to ascertain that the SEI is, in fact, measuring depression. It is further suggested that future studies include control groups, such as, nondepressed college students and depressed samples outside the college setting, to demonstrate the SEI's ability to differentiate different populations. Such replications will provide further evidence for the SEI's construct validity and substantiate the purported uniqueness of depression in college students.

APPENDIXES

APPENDIX A

Student Experience Inventory

Response Key: (A) very characteristic of me,(B) characteristic of me, (C) neither characteristic nor uncharacteristic of me, (D) uncharacteristic of me, (E) very uncharacteristic of me.

1. Sometimes I doubt whether students or teachers I'm talking to are really interested in what I am saying. A B C D E

2. I have vivid unhappy dreams which disturb me while asleep. A B C D E

* 3. In college I reach the goals I set for myself almost all the time. A B C D E

4. I have been let down by my friends. A B C D E

* 5. I can find enough energy most of the time to face the demands of college. A B C D E

6. It seems I will never catch up in my classwork. A B C D E

7. I brood a great deal. A B C D E

8. I can't seem to concentrate in class. A B C D E

9. No matter how hard I try I will never improve my grades. A B C D E

*10. My appetite is the same as usual. A B C D E

11. I get tense when I think of all the classwork lying ahead of me. A B C D E

12. I have had days or weeks when I couldn't do my

classwork because I couldn't "get going". A B C D E

13. My stomach is often nervous and tied up in knots. A B C D E

*14. I am happy in school a great deal of the time. A B C D E

15. I am not lucky enough to be successful in college. A B C D E

16. My sleep is fitful and disturbed. A B C D E

17. I wish I could be as happy as others seem to be. A B C D E

18. Parties aren't as fun as they used to be. A B C D E

19. When studying, I can't seem to understand what I've read as well as I used to. A B C D E

20. I feel that my future is hopeless and will never improve. A B C D E

21. I have difficulty in starting to study for an exam. A B C D E

*22. I find most of my classes enjoyable. A B C D E

23. Most of the time I am not in the mood to see anyone. A B C D E

*24. My daily life is full of things that keep me interested. A B C D E

*25. My memory on tests is as good as it ever was. A B C D E

26. I am only half successful in college. A B C D E

*27. I am always self-confident about my abilities to succeed in college. A B C D E

28. Lately I feel rather useless at times. A B C D E

* Scoring reversed

APPENDIX B

Student Experience Inventory Items by Hypothesized Subfactor

1) Negative Affect Towards Self

1. Sometimes I doubt whether students or teachers I'm talking to are really interested in what I am saying

26. I am only half successful in college.

27. I am always self-confident about my abilities to succeed in college.

28. Lately I feel rather useless at times.

2) Negative Physiological Symptoms

2. I have vivid unhappy dreams which disturb me while asleep.

10. My appetite is the same as usual.

13. My stomach is often tied up in knots.

16. My sleep is fitful and disturbed.

3) General Unhappiness

7. I brood a great deal.

14. I am happy in school a great deal of the time.

17. I wish I coukd be as happy as others seem to be.

23. Most of the time I am not in the mood to see anyone

4) Performance Difficulties

3. In college I reach the goals I set for myself almost all the time.

8. I can't seem to concentrate in class.

11. I get tense when I think of all the classwork lying ahead of me.

21. I have difficulty in starting to study for an exam.

5) Loss of Personal and Social Pleasure

4. I have been let down by my friends.

18. Parties aren't as fun as they used to be.

22. I find most of my classes enjoyable.

24. My daily life is full nof things that keep me interested.

6) Loss of Energy

5. I can find enough energy to face the demands of college.

12. I have had days or weeks when I couldn't do my classwork because I couldn't "get going".

19. When studying, I can't seem to understand what I've read as well as I used to.

25. My memory on tests is as good as it ever was.

7) Hopelessness

6. It seems I will never catch up in my classwork.

9. No matter how hard I try I will never improve my grades.

15. I am not lucky enough to be successful in college.

20. I feel my future is hopeless and will never improve.

APPENDIX C

Informed Consent Form

Please read and sign the following statement if you wish to participate in a study regarding the validation of an inventory specifically designed for college students.

The research project in which I am about to participate has been explained to me and all my questions have been answered satisfactorily. I voluntarily agree to participate and complete the three questionnaires in this project. I understand that the information I provide will remain confidential and will be used only for research purposes. I also understand that I am free to withdraw from this project at any time.

1._____	2._____
3._____	4._____
5._____	6._____
7._____	8._____
9._____	10._____
11._____	12._____
13._____	14._____
15._____	16._____
17._____	18._____

APPENDIX D

Student Experience Inventory Item-Total Correlations by Hypothesized Subscale

Subscale 1	r	Subscale 2	r
Items:1	.36	Items:2	.45
26	.47	10	.26
27	.51	13	.49
28	.52	16	.56

Subscale 3	r	Subscale 4	r
Items:7	.49	Items:3	.32
14	.36	8	.47
17	.49	11	.32
23	.35	21	.54

Subscale 5	r	Subscale 6	r
Items:4	.16	Items:5	.35
18	.28	12	.36
22	.18	19	.50
24	.30	25	.36

Subscale 7	r
Items:6	.42
9	.58
15	.56
20	.51

Appendix E

Student Experience Inventory Items per Factor

Factor 1: Academic Performance Anxiety

7. I brood a great deal.

11. I get tense when I think of all the classwork lying ahead of me.

13. My stomach is often nervous and tied up in knots.

25. My memory on tests is as good as it ever was.

Factor 2: Social Dissatisfaction

1. Sometimes I doubt whether students or teachers I'm talking to are really interested in what I am saying.

4. I have been let down by my friends.

17. I wish I could be as happy as others seem to be.

18. Parties aren't as fun as they used to be.

23. Most of the time I am not in the mood to see anyone.

28. Lately I feel rather useless at times.

Factor 3: Academic Dissatisfaction

10. My appetite is the same as usual.

14. I am happy in school a great deal of the time.

22. I find most of my classes enjoyable.

24. My daily life is full of things that keep me interested.

Factor 4: Sleep Disturbances

2. I have vivid unhappy dreams which disturb me while asleep.

16. My sleep is fitful and disturbed.

Factor 5: Loss of Self-Confidence

3. In college I reach the goals I set for myself almost all the time.

5. I can find enough energy most of the time to face the demands of college.

27. I am always self-confident about my abilities to succeed in college.

Factor 6: Performance Difficulties

6. It seems I will never catch up in my classwork.

8. I can't seem to concentrate in class.

12. I have had days or weeks when I couldn't do my classwork because I couldn't "get going".

19. When studying I can't seem to understand what I've read as well as I used to.

21. I have difficulty in starting to study for an exam.

Factor 7: Hopelessness

9. No matter how hard I try I will never improve my grades.

15. I am not lucky enough to be successful in college.

20. I feel that my future is hopeless and will never improve.

26. I am only half successful in college.

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