EXPLORING THE CULTURAL VALIDITY
OF THE COLLEGE STUDENT REASONS FOR LIVING INVENTORY
WITH ASIAN AMERICAN COLLEGE STUDENTS

A Dissertation

Presented to

The Graduate Faculty of The University of Akron

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

Jayoung L. Choi

July, 2007
EXPLORING THE CULTURAL VALIDITY
OF THE COLLEGE STUDENT REASONS FOR LIVING INVENTORY
WITH ASIAN AMERICAN COLLEGE STUDENTS

Jayoung L. Choi

Dissertation

Approved:   Accepted:

Advisor
Dr. James R. Rogers

Department Chair
Dr. Sajit Zachariah

Committee Member
Dr. Julia C. Phillips

Dean of the College
Dr. Cynthia F. Capers

Committee Member
Dr. John E. Queener

Dean of the Graduate School
Dr. George R. Newkome

Committee Member
Dr. Linda Mezydlo Subich

Date

Committee Member
Dr. James L. Werth, Jr.
ABSTRACT

This study examined the cultural validity of the College Reasons for Living Inventory (Westefeld et al., 1992) with Asian American College Students. Data from 314 participants were collected through a web-based survey. Although the results did not replicate the six factor structure of the CSRLI as identified in Westefeld et al., partial support for the factor structure was provided. The factor structure for the CSRLI in this Asian American student sample was best represented by five factors, Survival and Coping Beliefs, College and Future Related Concerns, Responsibility to Friends and Family, Moral Objections, and Fear of Suicide. The content of the five factors emerged for this sample was nearly identical to factors one through five from Westefeld et al. The 5-factor solution accounted for 50.25% of total variance and demonstrated moderate to high coefficient alphas for the subscales (i.e., from .78 to .92). Within the 5-factor structure, results supported that the CSRLI subscales differentiate between risk and no-risk groups, in that Asian American college student participants without suicide risk scored significantly higher on the CSRLI subscales with an exception of Fear of Suicide. The convergent validity of the CSRLI subscales was also supported through significant negative relations between the subscales and depression and hopelessness. Furthermore, the CSRLI subscales accounted for 8% of the variance in suicidal behavior above and beyond what is accounted by the risk factors of depression and hopelessness alone.
Furthermore, results suggested that protective factors are a salient component in understanding suicidal Asian American college students. Respondents provided additional reasons for living that seemed to reflect influences grounded in a collectivistic worldview. Although acculturation was not found to be associated with any of the research variables, the cultural variables of family obligation and desire to avoid bringing shame to family were significantly correlated with Responsibility to Friends and Family. Overall, the results of this study suggest that the CSRLI is a culturally valid assessment instrument for Asian American college students.
ACKNOWLEDGEMENTS

I would like to thank Dr. James Rogers, my dissertation chair, for supporting and challenging me throughout this process. Without his encouragement and confidence in me, the completion of this dissertation would not have been possible. My deepest appreciation also goes to my committee members, Drs. Julia Phillips, John Queener, Linda Subich, and Jim Werth for their interest, time, and stimulating advices. In addition, I would like to thank Dr. Karen Scheel, as I am very appreciative of her continued encouragement and for serving the dissertation committee while she was in Akron. I would like to acknowledge the time and support by the Asian American college students who took part in my survey. I also would like to extend my appreciation to the Asian American Psychological Association and Asian American student organizations for their generous help with data collection. Finally, I would like to thank my husband, Changhyun Michael, and our two sons, Eugene and David, for their love and patience.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>LIST OF TABLES</th>
<th>ix</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CHAPTER</strong></td>
<td></td>
</tr>
<tr>
<td>I. STATEMENT OF PROBLEM</td>
<td>1</td>
</tr>
<tr>
<td>Need for Studying Suicide Issues among Asian American College Students</td>
<td>3</td>
</tr>
<tr>
<td>College Student Suicide</td>
<td>5</td>
</tr>
<tr>
<td>Asian American College Student Suicide</td>
<td>7</td>
</tr>
<tr>
<td>Cognitive Theory: Reasons for Living</td>
<td>8</td>
</tr>
<tr>
<td>Cultural Belief and Suicide</td>
<td>12</td>
</tr>
<tr>
<td>Summary</td>
<td>13</td>
</tr>
<tr>
<td>Purpose for the Study</td>
<td>14</td>
</tr>
<tr>
<td>II. LITERATURE REVIEW</td>
<td>16</td>
</tr>
<tr>
<td>Asian American Suicide Statistics</td>
<td>17</td>
</tr>
<tr>
<td>Suicide Risk Factors in College Students and Asian American College Students</td>
<td>21</td>
</tr>
<tr>
<td>Protective Factors of Suicide</td>
<td>32</td>
</tr>
<tr>
<td>Cognitive Theory and Reasons for Living</td>
<td>37</td>
</tr>
<tr>
<td>The College Student Reasons for Living Inventory</td>
<td>40</td>
</tr>
<tr>
<td>Cultural Issues Salient to Asian American College Students</td>
<td>51</td>
</tr>
</tbody>
</table>
APPENDIX C. HUMAN SUBJECT APPROVAL.................................122
APPENDIX D. THE BACKGROUND QUESTIONNAIRE.......................123
APPENDIX E. THE SUICIDE BEHAVIORS QUESTIONNAIRE-
REVISED........................................................................124
APPENDIX F. THE BECK HOPELESSNESS SCALE..........................125
APPENDIX G. THE CENTER FOR EPIDEMIOLOGIC STUDIES -
DEPRESSION SCALE......................................................126
APPENDIX H. THE COLLEGE STUDENT REASONS FOR LIVING
INVENTORY.......................................................................127
APPENDIX I. THE ASIAN VALUE SCALE – REVISED......................129
APPENDIX J. CORRELATIONS AMONG RESEARCH VARIABLES........130
APPENDIX K. THE CSRLI ITEMS NOT MEETING
THE FACTOR LOADING CRITERIA......................................131
APPENDIX L. FACTOR LOADING FOR THE COLLEGE STUDENT
REASONS FOR LIVING 46 ITEMS.................................132
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Demographic Characteristics</td>
<td>73</td>
</tr>
<tr>
<td>2.</td>
<td>Descriptive Statistics for the SBQ-R</td>
<td>76</td>
</tr>
<tr>
<td>3.</td>
<td>Means, Standard Deviation, Minimum, Maximum, and $p$ Values for Research Variables</td>
<td>78</td>
</tr>
<tr>
<td>4.</td>
<td>Eigenvalues and Variances Explained by the Factors</td>
<td>79</td>
</tr>
<tr>
<td>5.</td>
<td>Factor Correlation Matrix for the Five Factors</td>
<td>80</td>
</tr>
<tr>
<td>6.</td>
<td>Means, Standard Deviations, and Internal Consistency Reliabilities for the CSRLI Factors</td>
<td>81</td>
</tr>
<tr>
<td>7.</td>
<td>Factors, Items, and Factor Loading of the CSRLI Items after a Promax Rotation</td>
<td>82</td>
</tr>
<tr>
<td>8.</td>
<td>Between Group Differences on the CSRLI Subscales: Summary of Univariate Analyses of Variance</td>
<td>84</td>
</tr>
<tr>
<td>9.</td>
<td>Correlations between the CSRLI Subscales and Depression and Hopelessness</td>
<td>85</td>
</tr>
<tr>
<td>10.</td>
<td>Correlations among the CSRLI Subscales, Suicidal Behavior, Depression, and Hopelessness</td>
<td>86</td>
</tr>
<tr>
<td>11.</td>
<td>Summary of Hierarchical Regression Analyses for Variables Predicting Suicidal Behavior</td>
<td>87</td>
</tr>
<tr>
<td>12.</td>
<td>Means and Standard Deviations for Cultural Variables</td>
<td>88</td>
</tr>
<tr>
<td>13.</td>
<td>Correlations among Acculturation, Family Obligation, Desires to Avoid Bringing Shame, the CSRLI Subscales, and Suicidal Behavior</td>
<td>89</td>
</tr>
<tr>
<td>14.</td>
<td>Additional Unique Reasons for Living Identified by Participants</td>
<td>91</td>
</tr>
</tbody>
</table>
CHAPTER I

STATEMENT OF PROBLEM

According to the American Association of Suicidology (AAS, 2006), one out of 12 college students had made a suicide plan, and more than 1,000 suicides are estimated to occur on college campuses each year. In addition, among the college aged population (18-24 years of age), suicide is the third leading cause of death, following accidental death and homicide (Barrios, Everett, Simon, & Brener, 2000), and suicide accounts for 12.3% of all deaths among 15-24 year olds (AAS). Hence, the impact of suicide on youth, family, and the nation as a whole is grave when considering potential years of life lost. Youth suicide is perhaps one of most pressing health concerns that the nation faces (Liu, Yu, Chang, & Fernandez, 1990), and The Surgeon General’s Call to Action to Prevent Suicide (U.S. Public Health Service, 1999) specifically underscored suicide as a priority for health promotion and prevention. Furthermore, the passage of the Garrett Lee Smith Memorial Act, which addresses early intervention and prevention of suicide in higher education and youth, seems to precisely support such an assertion (see American Psychological Association, Public Policy Office, 2004, for detailed discussion).

In keeping with heightened awareness concerning suicide on college campuses, the amount of research on college students has substantially increased in recent years. However, there is a dearth of studies that have looked at the issues of suicide for college students from diverse racial/ethnic backgrounds, including Asian Americans (Choi,
Rogers, & Werth, in press). Some have argued that the lack of research on Asian American students reflects the implicit expectation that Asian Americans are “the model minority.” That is, members of this group are psychologically healthy and not in need of specific research attention (Solberg, Ritsma, Davis, Tata, & Jolly, 1994; Sue, 1994), although the extant data suggest otherwise. In fact, Asian American students may experience greater psychological distress than European American college students (Gregersen, Nebeker, Seely, & Lambert, 2004), and the level of their distress tends to be severe when they are first seen at counseling centers (Chen, Sullivan, Lu, & Shibusawa, 2003; Kearney, Draper, & Baron, 2005).

Furthermore, suicide is a particularly serious concern for Asian American youth (ages from 15-24) in that the proportional mortality rate of suicide for Asian American youths is higher than that of European Americans (Liu et al., 1990). For example, Liu and colleagues examined the data from the National Center for Health Statistics between 1970 and 1980 and concluded that suicide was responsible for one out of five deaths among Japanese American young males as compared to one out of eight deaths among European American young males. In addition, AAS (2006) estimates that each completed suicide leaves at least six family and friends as survivors. Thus, the impact of suicide poses a special challenge for Asian Americans given their collectivistic cultural values. Again, there is a paucity of research examining issues of suicide for Asian Americans in general (Shiang et al., 1997), and much less for Asian American college students in particular.
Need for Studying Suicide Issues among Asian American College Students

The limited understanding of Asian American college student suicide raises concerns for counseling psychologists for a number of reasons. First, suicide assessment has increasingly become one of the core functions of college counseling centers (Morrison & Downey, 2000), as clients with suicide related issues have tripled in recent years (Benton, Roberson, Tseng, Newton, & Benton, 2003). Therefore, the acquisition of skill sets in suicide assessment and treatment is particularly critical for counseling psychologists and counseling trainees who often staff counseling centers. It behooves clinicians to be adequately informed of the state of the art in suicide assessment and treatment from the standpoint of providing the standard of care as well as meeting ethical responsibilities. As recent legal developments suggest, colleges may share legal responsibility in cases of student deaths by suicide. For example, Ferrum College in Virginia was found liable for the suicide of a student (Lake & Tribbensee, 2002).

Furthermore, competency in suicide assessment and treatment should include knowledge specific to subgroups, such as Asian American students, who have been historically underserved (Solberg et al., 1994; Sue, 1994), are scarcely understood (Sue, 1994), and may be particularly susceptible to suicidal behaviors (Keller & Silverman, 2002; Liu et al., 1990). The often-cited underutilization of counseling services by Asian Americans is likely a function of systematic and cultural barriers to accessing mental health services (Leong & Lau, 2001; Okazaki, 2000; Sue, 1994), including limited access to clinicians who are multiculturally competent in issues related to Asian Americans.

Second, suicide should be understood within the cultural context of a person (Muehlenkamp et al., 2005; Range et al., 1999; Scheel, 1999; Shiang, Barron, Xiao,
Blinn, & Tam, 1998; Westefeld et al., 2000) as the experiences of each racial/ethnic group may differ in terms of life stressors (e.g., oppression, discrimination, acculturation stress), available coping mechanisms, and underlying cultural beliefs. Along these lines, Shiang and colleagues argued that the meaning of suicide for Asian Americans lies within a collectivistic cultural belief system that views actions of the individual as “not merely a reflection of the needs of the individual, but also reflect on the entire family or group” (p. 245). In addition, unlike Western societies where suicide is often viewed as a “sin” (p. 245), suicide in Asian societies may be seen as shameful and dishonorable to the family or, alternatively, an honorable act.

Third, our understanding of suicide in the United States has been largely based on data from European Americans; therefore, generalizability of findings from such data to Asian Americans is questionable at best. Even when Asian Americans are included as participants, methodological problems often cloud study findings. For example, the numbers of Asian American participants in studies are often too few to be statistically useful (e.g., Muehlenkamp, Gutierrez, Osman, & Barrios, 2005), or studies are conducted using measures normed on European Americans. In establishing the multicultural guidelines, APA (2002) recognized such cultural limitations of research in the United States. The multicultural guidelines call for culturally diverse samples and inclusion of culturally validated assessment instruments in research and assessment. In particular, researchers are urged to examine the cultural validity of instruments by questioning whether underlying constructs of their instruments have the same meaning and function across cultures.
In sum, suicide among college students is increasingly a concern for counseling psychologists; however, there is a paucity of literature examining the issues of suicide for ethnic minority students such as Asian American college students. In contrast to the general belief that Asian American college students present a low suicide risk, the available data suggest that suicide remains an important health issue for Asian American college students. Furthermore, many scholars contend that culture is an important contextual variable that explains human behavior and suicide should be understood within the cultural context of an individual, questioning the generalizability of suicide research findings to Asian Americans. One of the primary concerns in this regard is use of measurement instruments that have not been validated on members of this group.

College Student Suicide

In keeping with the general trend in suicide research overall, research on college student suicide has been grounded on a diathesis-stress model, focusing on risk factors such as cognitive, affective, behavioral, and contextual correlates to suicide thoughts and behaviors. Those include family conflict, relational problems, academic and financial concerns, sexual assault, non-heterosexuality, exposure to suicidal others (Kisch, Leino, & Silverman, 2005), problem solving deficits (Bonner & Rich, 1987; Schotte & Clum, 1982), and perfectionism (Chang, 1998; Dean, Range, & Goggin, 1996; Hewitt, Flett, & Weber, 1994). Among these suicide risk factors, hopelessness and depression are most consistently identified as the major predictors of suicidal thoughts and behaviors (Connell & Meyer, 1991; Furr, Westefeld, McConnell, & Jenkins, 2001; Gutierrez, Osman, Kopper, Barrios, & Bagge, 2000; Kisch et al., 2005; Schotte & Clum; Strang & Orlofsky, 1990; Westefeld & Furr, 1987; Westefeld et al., 2000). For example, in one study, 49%
of students cited hopelessness as a contributing factor to their suicidal thoughts and behaviors since coming to college (Furr et al.). In another study, 33.4% of student participants who indicated having experienced depression also reported having considered suicide (Kisch et al.).

Moving away from this primary focus on risk factors, a more recent development in assessing suicidality has been to look at protective factors in addition to risk factors in general and clinical populations (Linehan, Goodstein, Lielsen, & Chiles, 1983; Heinz, Segal, & Chandler, 2005; Malone et al., 2000; Osman et al., 1999) and, more specifically, college populations (Connell & Myer, 1991; Dyck, 1991; Gutierrez et al., 2000; Muehlenkamp et al., 2005; Scheel, 1999; Westefeld, Cardin, & Deaton, 1992; Westefeld, Badura, & Scheel, 1996a, 1996b). Linehan and colleagues (1983) pointed out that the suicide research had been focusing primarily on identifying “maladaptive attributes” (p. 276) of suicidal individuals and argued for examining the “adaptive, life-maintaining characteristics” (p. 276) of those who are nonsuicidal. Similarly, Gutierrez et al. (2000) contended that suicidality should be considered on a continuum, and ignoring protective factors misses the multidimensional nature of suicidality. They asserted that assessing “the ambivalence, both about continuing to live and intentionally dying” (p. 410) would allow for understanding the suicidal client in a context and provide counselors with additional information that would lead to more confident assessment.

Thus, Gutierrez and colleagues (2000) argued that protective and risk factors are two distinct dimensions of suicidality for college students, and assessing protective factors, such as fear of social disapproval, fear of suicide, and responsibility to family, would produce greater accuracy for assessment and intervention than assessing risk
factors alone. For example, their factor analysis of several well-established suicide assessment instruments resulted in two factors, negative and protective factors, accounting for 28% and 8.2% of total variance in suicidality, respectively.

More recently, Muehlenkamp et al. (2005) examined the cross-cultural validity of protective factors with a diverse group of college students, including a small number of Asian Americans, by investigating a measure that includes both protective and negative factors of suicide (i.e., the Positive and Negative Suicide Ideation Inventory [PANSI]; Osman, Gutierrez, Kopper, Barrios, & Chiros, 1998). As expected, their results provided support for two distinct dimensions of suicide (i.e., negative and protective), suggesting the importance of protective factors for students from diverse backgrounds, including Asian American students. However, their results also showed that protective factors might differ as a function of culture.

Asian American College Student Suicide

As noted earlier, the scarcity of studies examining Asian American college student suicide substantially limits our understanding of suicide correlates for these students. Nonetheless, a perusal of extant studies revealed that Asian American students appear to share many risk factors with European American students, hopelessness and depression in particular (Chang, 1998; Chung, 2003). For example, the link between hopelessness and suicidal behaviors was noted with Asian American college students (Chung; Chang, 1998), Asian international students (Yang & Clum, 1994), and Hong Kong Chinese youth (Stewart et al., 2005). Furthermore, studies have shown that Asian American students may experience significantly more hopelessness than European American students (Chang; Kisch et al., 2005; Muehlenkamp et al., 2005). In addition,
depression increased the likelihood of exhibiting suicidal behavior in Asian American outpatient youths four fold (odds ratio = 4.10, \( p = .0042 \); Lau, Jernewall, Zane, & Meyers, 2002). These findings suggest that hopelessness and depression are important risk factors for Asian American students.

However, in terms of protective factors with Asian American student, only one study has been located (Muehlenkamp et al., 2005). Although Muehlenkamp et al. provided data supporting the cross-cultural validity for protective factors. Asian American students in their sample scored lower on protective factors than did all other groups (Muehlenkamp et al., 2005). In response to this finding, Muehlenkamp et al. suggested that the low level of protective factors in their Asian American participants might be related directly to the lack of items that were consistent with this group’s cultural values, questioning the cultural validity of the instrument and highlighting the need for culturally validated measurements. Additionally, they noted another limitation of their study was a lack of information about acculturation, potentially confounding their findings and eliminating the ability to investigate its potential impact on individuals’ beliefs and behaviors regarding suicide.

To date, there have been no studies that investigated protective factors specifically with Asian American students, using culturally validated measurement instruments. Thus, the lack of studies with Asian American students presents a serious limitation to the generalizability of the current understanding of protective factors to this group.

Cognitive Theory: Reasons for Living

Cognitive theory proposes that the behaviors of an individual are largely determined by his or her view of self and world (Beck, 1996). Therefore, in order to
survive, a person needs to process information in an adaptive way, and dysfunctional schemas, which are characterized as negative automatic thoughts, can result in psychopathology, including suicide. For example, Beck and colleagues (1974) theorized that hopelessness is one of the important determinants of suicidal behavior, and subsequent studies have found empirical support for this assertion (e.g., Beck et al., 1989; Cole, 1988; Dixon, Heppner, & Anderson, 1991; Gutierrez et al., 2000; Schotte & Clum, 1982; Steed, 2001; Westefeld et al., 1990).

On the basis of cognitive theory, Linehan and colleagues (1983) also argued that, “one of the factors differentiating suicidal from nonsuicidal persons is the content of their belief systems” (p. 277). That is, nonsuicidal individuals hold a set of adaptive, life-oriented cognitive schemas, which might mitigate against suicide. Thus, the Reasons for Living Inventory (RFL; Linehan et al.) was developed to measure the importance of those beliefs as reasons against suicide. The RFL since has served as a theoretical model for a series of suicide assessment instruments (Range & Knott, 1997), including the College Student Reasons of Living Inventory (CSRLI; Westefeld et al., 1992), a focus of the present investigation.

As noted earlier, studies have provided strong evidence that individuals who are suicidal are less likely to endorse positive, life-affirming beliefs (Connell & Myer, 1991; Dyck, 1991; Gutierrez et al., 2000; Muehlenkamp et al., 2005; Scheel, 1999; Westefeld, Badura, Kiel, & Scheel, 1996a, 1996b; Westefeld et al., 1992), further supporting the cognitive theory that underlies the RFL. The RFL was found useful for assessing suicidal behaviors in both general and clinical populations (Heinz et al., 2005; Linehan et al.; Malone et al., 2000; Osman et al., 1999). The six subscales of the RFL are (a) Survival
and Coping Beliefs, (b) Responsibility to Family, (c) Child-Related Concerns, (d) Fear of Suicide, (e) Fear of Social Disapproval, and (f) Moral Objections related to suicide.

Following the theoretical model of the original RFL, Westefeld et al. (1992) developed The College Student Reasons of Living Inventory (CSRLI). They argued that cognitive schemas for college students would likely mirror their own set of developmental needs, values, and beliefs. So far, the CSRLI is the only instrument specifically designed to measure the protective suicide factors with college students. Analogous to the original RFL, individuals are asked to rate the degree of importance of reasons for not killing themselves. The CSRLI has 46 items and six subscales: (a) Survival and Coping Beliefs, (b) College and Future-Related Concerns, (c) Moral Objections, (d) Responsibility to Friends and Family, (e) Fear of Suicide, and (f) Fear of Social Disapproval. Moderate-to-high internal consistency reliabilities have been reported for the CSRLI subscales except for the Fear of Social Disapproval subscale (Rogers & Hanlon, 1996; Scheel, 1999; Westefeld et al., 1992; Westefeld et al., 1996a, 1996b; Westefeld, Scheel, & Maple, 1998).

The construct validity of the CSRLI has been supported through exploratory factor analyses (EFA; Westefeld et al., 1992). In primarily European American samples, six factors were identified, accounting for between 43% and 48% of total variance (Westefeld et al.). In the follow-up study that included a small number of African American students (Rogers & Hanlon, 1996), the result of EFA again supported the six factor solution. Rogers and Hanlon, however, noted some inconsistencies in the factor loadings as compared to prior research although the content of the factors remained stable despite the failed items. Given the high overlap between the surviving items in their
study and the original scale, Rogers and Hanlon concluded that the overall factor structure of the CSRLI was generally stable. Cautioning that the performance of these items could be a sample specific result, they also suggested continued evaluation of items in future studies.

In term of convergent validity for the CSRLI, studies have shown significant correlations with suicide risk and depression in the predicted directions (Scheel, 1999; Westefeld et al., 1992). Furthermore, convergent validity was found with African American (Westefeld et al., 1996a) and American Indian students (Scheel, 1999). In particular, the CSRLI total score and two subscales (i.e., the Survival and Coping Beliefs and the College and Future Related Concerns subscales) were found useful in assessing suicidal risk with primarily European American student populations (Westefeld et al., 1992; Westefeld et al., 1996b) and with diverse groups of students (Scheel, 1999; Westefeld et al., 1996a).

To date, however, there have been no studies that examined the cultural validity of the CSRLI specifically for Asian American students. Given the difference between Western and Asian culture, and the potential utility of the CSRLI that was indicated for African American and American Indian students, examining the validity with Asian American college students seems in keeping with needs identified in the extant suicide literature and the multicultural guidelines set forth by APA. As Jobes, Jacoby, Cimbolic, and Hustead (1997) have suggested, one of the most difficult challenges for clinicians who serve potentially suicidal college students is the relative absence of valid suicide assessment instruments.
Cultural Beliefs and Suicide

As many have argued, culture does make a difference in terms of patterns of suicide, and beliefs about suicide are embedded in culture (Lester, 1997; Range et al., 1999; Shiang, 1998). Similarly, the cultural beliefs and the cognitive schemas that accompany cultural beliefs may also influence reasons for living. Although Asian cultural values are often described as interpersonal harmony, obedience, humility, and filial piety (Kim, Atkinson, & Yang, 1999; Sue & Sue, 2003; Uba, 1994), the core element of collectivism is identified as a sense of duty and obligation to family (Oyserman, Coon, & Kemmelmerier, 2002).

In relation to the act of suicide, collectivistic values present paradoxical views (Choi et al., in press; Domino & Takahashi, 1991; Lester; Range et al., 1999). Suicide is admonished as selfish and disrespectful (i.e., against the social contract of mutual obligation), while also being seen at times as an honorable act in response to an extreme form of shame. Further elaborating on cultural differences with respect to suicide, Shiang (1998) suggested that in a collectivistic culture that values interdependence as opposed to independence and autonomy as in an individualistic culture, suicide is considered to be as a “social act” (p. 346) and the meaning of suicide should be understood in the context of relationships.

Cognitive theory, which underlies the CSRLI, supports the contention that adaptive and life-oriented cognitive schemas function as protective factors against suicide, providing reasons for living. From this theoretical perspective, for someone with an Asian heritage, cognitive schemas consistent with the Asian cultural belief system (e.g., obligation to family, shame) might also play a role as protective factors by offering
additional or alternative reasons for living. For example, a heightened sense of falling short of family expectations (e.g., academic failure) may lead an individual to feeling depressed and hopeless, whereas a strong sense of obligation to one’s family (e.g., repaying parents for their sacrifice) may serve to protect one against suicide.

The degree of impact of these Asian cultural values and beliefs on Asian American college students’ self-construal largely depends on the levels of acculturation of each individual (Berry, 1980; Kim, Atkinson, & Umemoto, 2001; Shiang et al., 1998). Accordingly, researchers have suggested that acculturation is an important cultural variable to consider in research with Asian Americans (e.g., Kim et al., 2001, Kim & Atkinson, 2002; Muehlenkamp et al., 2005; Okazaki, 2000). For example, acculturation has been found to relate to help-seeking behavior (Kim & Omizo, 2003) and the counseling process (Kim et al., 2001; Kim, Li, & Liang, 2002). Lower levels of acculturation also were associated with psychological difficulties for Asian Americans (Chung, 2001; Yeh, 2003). More importantly, acculturation has been shown to moderate the relationship between intergenerational conflict and suicidal behavior among Asian American youth (Lau et al., 2002), further supporting inclusion of acculturation in suicide research.

Summary

Despite the general notion that Asian American college students are at low risk for suicide, data indicate that suicide is a serious concern for this cultural group. Asian American students are among the highest in reporting incidence of suicide ideation compared to European American students while Asian American women of college age have one of highest suicide rates. Furthermore, suicide claims proportionally more Asian
American youths than it does European American youths. Yet, there is a paucity of literature examining suicide with Asian American college students, especially in regard to protective factors.

Cognitive theory suggests that non-suicidal individuals hold a set of life-affirming beliefs (i.e., reasons for living) that differ from that of suicidal individuals. In support of this theory, recent developments in suicide research have indicated that assessing protective factors, such as survival and coping beliefs, responsibilities to family, and fear of social disapproval, adds to suicide assessment and intervention above and beyond risk factors. Furthermore, there has been some support that assessing protective factors is an important component of suicide assessment across diverse groups of students, including Asian Americans. Among the instruments designed to measure protective factors, the CSRLI (Westefeld et al., 1992) is the only scale that was developed specifically for college students and has shown some validity with diverse groups of college students including African Americans and American Indians.

Suicide, as with other actions and beliefs, occurs in the context of culture. Hence, Asian cultural beliefs may play an important role in cognitive schemas that contribute to reasons for living, underlying constructs of the CSRLI. Therefore, exploring the cultural validity of the CSRLI with Asian American college students is a timely and worthwhile endeavor, consistent with the multicultural guidelines of APA (2002).

Purpose for the Study

The overarching goal of this research was to add to the scientific knowledge of Asian American college student suicide through examining protective factors based on cognitive theory. Hence, the primary purpose of the present investigation was to examine
the cultural validity of a known measure of protective factors, the College Student Reasons for Living Inventory (Westefeld et al., 1992), with Asian American college students.

First, as a means of exploring the cultural validity of the CSRLI, the factor structure of the CSRLI was explored and compared with the factor structure of the CSRLI originally identified by Westefeld et al. (1992) in primarily European American student samples. Second, to provide additional information on the cultural validity of the CSRLI, the relationships between the CSRLI and suicidal behavior and between the CSRLI and other core suicide correlates (i.e., hopelessness and depression) were examined. Third, the utility of the CSRLI was investigated by examining whether the CSRLI predicts suicidal behaviors above and beyond risk factors. In addition, this investigation explored whether cultural variables identified in the literature (i.e., acculturation, family obligation, and shame avoidance) are related to the CSRLI scores and other main research variables. Finally, additional reasons for living provided by the participants were examined for themes specific to Asian American college students.

By investigating the cultural validity of an established measurement instrument (i.e., the CSRLI) for Asian American students, the present study sought to address some of the concerns raised in the extant literature and to contribute to the scientific knowledge related to this understudied and underserved population around the important topic of suicide.
CHAPTER II
LITERATURE REVIEW

In 2000, approximately one million U.S. college students identified themselves as Asian American, constituting approximately 6% of all college students (U.S. Department of Education, 2001). With the population of Asian Americans expected to double by 2025 (U.S. Department of Health and Human Services, 2005), the number of Asian Americans in higher education will likely increase in coming years. However, there is a relative dearth of studies that have looked at the issues of psychological needs for Asian American students (Kearney et al., 2005; Liu et al., 1990). Among these issues, suicide appears to be of particular concern (Liu et al.) although suicide literature on Asian American college students is seriously limited at this point.

Because research specific to Asian American students is limited, this literature review included an overview of the extant research on college student suicide in general as well as studies on Asian American students. The purpose is to provide a context for this investigation. Particularly, six studies, which seem most relevant to Asian American college students, are referred to throughout this literature review. Those are Chang (1998), Chung (2003), Lau et al. (2003), Muehlenkamp et al. (2005), Shiang et al. (1997), and Yang and Clum (1994).

First, the prevalence of suicide and suicidal behaviors of college students and Asian American youths is reviewed. Second, an overview of suicide correlates for the
college population and Asian American students is offered. The purpose of reviewing these correlates is not only to provide a context for this investigation but also to determine relevant variables in testing convergent validity of the CSRLI. Third, cognitive theory, which is the theoretical framework for the College Student Reasons for Living Inventory (CSRLI; Westefeld et al., 1992), is reviewed and discussed as it relates to conceptualizing protective factors for Asian American student suicide. Fourth, findings from the studies with the CSRLI are reviewed in regards to its validity and utility. Finally, to place the discussion of the cognitive schema and the CSRLI in a cultural context, Asian cultural beliefs and values are reviewed, and the issue of acculturation is introduced as a salient variable potentially affecting the relationship between reasons for living and suicidal behavior in Asian American students. This review concludes with an argument for investigating the cultural validity of the CSRLI through identifying the underlying factor structure and convergent validity of the CSRLI with Asian American students.

Asian American Suicide Statistics

Although Shiang et al. (1997) concluded that Asian Americans have a relatively low suicide rate compared to European Americans, others have argued that published suicide rates underestimate the actual rates for Asian Americans (Lau et al., 2002). In fact, the most recent data from the Centers for Disease Control and Prevention (CDC; 2005) suggest that suicide is a serious health issue for this ethnic group. For Asian Americans, it is the 8th leading cause of death, responsible for 1.7% of total deaths that occurred in 2002, compared to being the 10th leading cause for European Americans, responsible for 1.4% of deaths for the same year. Given the fact that Asians are one of
the fastest growing populations through immigration (US Census Bureau, 2005), it also is noteworthy that the suicide rates in China, South Korea, and Japan have been on the rise in recent years, ranging from 14/100,000 in China (in 1999) to 24/100,000 in South Korea and Japan (Japan Statistical Yearbook, 2005; Korea National Statistics Office, 2005; World Health Organization, 2003). This trend is alarming in light of some evidence that peoples’ beliefs about suicide and death persist through migration (Shiang, Barron, Xiao, Blinn, & Tam, 1998), and first and second generation immigrants’ suicide rates often mirror that of their homeland (Lester, 1997). In comparison, the suicide rate in the US was 11.5/100,000 in 2004 (AAS, 2006).

Accurate data about suicide among Asian American college students are not available at this point. However, the overall suicide rate on college campuses was estimated to be 7.5/100,000, based on a longitudinal study of the Big Ten universities (Silverman, Meyer, Sloan, Raffel, & Pratt, 1997). This rate is considerably lower than that of the individuals matched by age, gender, and race during the same period (i.e., 15/100,000). In the absence of data specific to Asian American college students, the data from the CDC for college-aged Asian Americans offers a rough estimate. According to the CDC (2005), the overall suicide rate for Asian Americans aged 20 to 24 in 2002 was 6.7/100,000, compared to 12.4/100,000 for the same age group in the overall population. However, among women, Asian Americans between ages 15 and 24 have shown the highest suicide rate across race and ethnicity with the exception of American Indians. In 2001, the suicide rate of Asian American women between ages 15 and 24 was 3.6/100,000 whereas the overall suicide rate of women for the same age group was 2.9/100,000 (CDC, 2005).
However, weighing the significance of suicide as a research topic solely on its rate minimizes the gravity of the issue of suicide among college students. For example, among the college aged population (18-24 years of age), suicide is the third leading cause of death, following accidental death and homicide (Barrios, Everett, Simon, & Brener, 2000), and suicide constitutes 12.3% of all deaths among 15-24 year olds (AAS, 2004). Similarly, Liu et al. (1990) argued that proportional mortality rates provide a more meaningful way to ascertain the health promotion and prevention priority for youth. Proportional mortality rate refers to the percent of deaths by a specific cause (i.e., the total number of deaths as denominator and the number of deaths by suicide as a numerator). Based on the data from the National Center for Health Statistics between 1970 and 1980, the proportional mortality rate of Asian American youth was approximately 19% versus 12% for European American youth (Liu et al.), further supporting that suicide is of serious concern for Asian American youth.

Beyond suicide, there is a body of studies indicating that suicidal ideation and behaviors are prevalent in the college population (Furr et al., 2001; Keller & Silverman, 2002; Kisch et al., 2005; Westefeld & Furr, 1987; Westefeld et al., 2005). For example, Furr et al. (2001) surveyed 1,455 college students and found that 9% of respondents experienced thoughts of suicide and 1% had made a suicide attempt while attending college. Their findings are consistent with findings from the 1995 National College Health Risk Behavior Survey (NCHRBS) in which 10% of the 4,609 participants endorsed having had seriously considered suicide within the past year, and 1.5% reported having attempted suicide during the same period (CDC, 1995).
Furthermore, in the recent study by the National College Health Assessment Survey (NCHA), 9.5% of 15,977 college students who responded reported having seriously considered suicide within the last school year, and 1.5% reported having attempted suicide during the same period (Kisch et al. 2005). Moreover, the same survey indicated that Asian American students were at a higher risk for seriously considering suicide than European American college students, but no differences were found between European American, African American, or Hispanic American students. In fact, Asian American students were 1.6 times more likely to have seriously considered attempting suicide than their European American counterparts in the survey. This finding is also consistent with other studies where Asian American college students scored higher on suicidal ideation compared to European American students (Chang, 1998; Muehlenkamp et al., 2005). Although Maris (1992) argued that non-fatal and fatal suicidal behaviors are phenomenologically different, non-fatal suicidal behaviors are consistently found to be one of the most important correlates to suicide (Westefeld et al., 2000). Therefore, these findings further support the importance of addressing non-fatal suicidal behaviors for college students and, more specifically for Asian American students.

In sum, despite the general belief that Asian Americans have a lower suicide rate, suicide remains a serious concern for Asian American college students. Similarly, even though college students are perceived to be less vulnerable to suicide than the non-student population, the evidence suggests that suicidal thoughts and behaviors are widespread among college students. Furthermore, Asian American college students seem as vulnerable to suicidal behaviors as are other students. Thus, the issue of suicide in Asian American college students presents a particular concern for counseling
psychologists working on college campuses, given the limitations of current suicide literature. Taken together, these data underscore the importance of the issue of Asian American college student suicide for counseling psychologists and the pressing need for research to provide culturally relevant information.

Suicide Risk Factors in College Students and Asian American College Students

Grounded in a diathesis-stress model, research in suicide has been focused primarily on risk factors such as the cognitive, affective, behavioral, and contextual correlates of suicide thoughts and behaviors of college students. The cognitive and affective correlates identified as risk factors include hopelessness, depression (Bonner & Rich, 1987; Furr et al., 2001; Strang & Orlofsky, 1990; Westefeld & Furr, 1987), problem-solving deficits (Bonner & Rich; Clum & Febbraro, 1994; Dixon et al., 1991; Priester & Clum, 1993; Schotte & Clum, 1982; Yang & Clum, 1996), and perfectionism (Chang, 1998; Dean et al., 1996). The interpersonal and contextual risk factors (i.e., life stressors) include a history of family discord and relationship problems (Chung, 2003; Furr et al., 2001; Westefeld & Furr, 1987; Yang & Clum), prior exposure to suicidal others (Gutierrez, Rodriguez, & Garcia, 2001; Yang & Clum), and academic and financial concerns (Furr et al., 2001; Westefeld & Furr, 1987).

Hopelessness and Depression

Among suicide risk correlates, hopelessness and depression are most consistently identified as the leading risk factors of suicidal thoughts and behaviors (Connell & Meyer, 1991; Furr et al., 2001; Gutierrez et al., 2000; Kisch et al., 2005; Schotte & Clum, 1982; Strang & Orlofsky, 1990; Westefeld, & Furr, 1987; Westefeld et al., 2000). For example, in Westefeld and Furr’s survey of 962 students from three different institutions
in 1987, 306 students (32%) reported having experienced suicidal behavior previously. Of these 306 students, 38% endorsed hopelessness as a contributing factor to their suicidal behavior whereas 26% claimed self-defined depression as a contributing factor. In their follow-up study a decade later, 9% \((n = 130)\) of 1,455 college student participants reported having experienced suicidal behavior since coming to college. Out of these 130 students who reported having experienced suicidal behaviors 49% cited hopelessness as a contributing factor to their suicidal thoughts and behaviors, whereas 26% cited self-defined depression as a contributor \(\text{(Furr et al., 2001).}\)

Similarly, results of a survey by the American College Health Association indicated that feelings of hopelessness and depression were widespread in college campuses \(\text{(Kisch et al., 2005).}\) For example, 62.2% of students had experienced feelings of hopelessness at least once during the past year, and 44.4% reported having experienced being “so depressed it was difficult to function” \(\text{(p. 7).}\) Obviously, not all the students who experienced hopelessness or depression engaged in suicidal behaviors; however, depression was again found to associate with suicidal behaviors, with 33.4% of students who reported depression \(\text{(i.e., “felt so depressed it was difficult to function”),}\) also endorsed having considered suicide. Similarly, 23.8% of the students who experienced hopelessness also reported having considered suicide.

Although depression is unarguably a major risk factor in suicide, many have suggested that hopelessness is the single most important risk factor for college student suicide \(\text{(Cole, 1988; Schotte & Clum, 1982; Westefeld et al., 1990).}\) Empirically, Schotte and Clum demonstrated that hopelessness predicted suicide intent above and beyond depression, by adding 6% unique variance to 37% variance accounted for by depression.
They also examined the independent contributions of depression and hopelessness at varying levels of suicide intent. The results suggested that the saliency of hopelessness increased as the level of suicide intent intensified; that is, as suicidal behavior became more serious, hopelessness accounted for increasingly more variance in predicting suicidal behaviors.

Consistent with findings in European American students, the links among hopelessness, depression, and suicidal behaviors were also noted in Asian American college students (Chang, 1998; Chung, 2003) and Asian American outpatient youth (Lau et al., 2002). Chung conducted a qualitative study of eight Asian American female students who were in treatment for suicidal behavior, providing a descriptive and phenomenological understanding of the topic. Not surprisingly, the themes of hopelessness and depression emerged from the participants’ interviews, as depicted in one participant’s statement, “I just felt I was a tourist on this earth. I won’t stay here long…I don’t know who can help me, how I can get out” (p. 37). Similarly, in another study (Chang), the extent to which hopelessness is related to suicidal ideation was found comparable between Asian American and European American students ($r = .46$ and $r = .49$, respectively), supporting hopelessness as an important factor for Asian American students as well. Furthermore, consistent with other findings (e.g., Kisch et al., 2005; Muehlenkamp et al., 2005), the results from Chang’s study indicated that Asian American students may experience significantly more hopelessness ($M = 5.43, SD = 4.95$ vs $M = 3.18, SD = 3.39$) than European American students.

Beyond college students, Lau et al. (2002) examined data from 285 Asian American outpatient youth (ages ranging from 4 to 17) and found a strong relationship
between depression and suicidal behavior among their participants. In their study, being diagnosed with depression increased the likelihood of exhibiting suicidal behavior by four fold (odds ratio = 4.10, $p = .0042$). Almost half of the suicidal youth had been diagnosed with depression, whereas only 10% of the non-suicidal youth had been diagnosed with depression. These results suggested that the link between depression and suicidal behaviors in Asian American youth extends to earlier ages.

In Asian international students, the associations among hopelessness, depression, and suicide ideation were also supported (Yang & Clum, 1994). For example, in Yang and Clum’s study, hopelessness and depression were found to significantly relate to suicide ideation ($r = .46, p < .001$, $r = .62, p < .001$, respectively). However, a path analysis also revealed that the effect of hopelessness on suicide ideation was through depression; hopelessness predicted depression ($\beta = .29, p < .001$), which in turn predicted suicide ideation ($\beta = .54, p < .0001$). In their study, depression was the only variable that emerged as having a direct effect on suicide ideation (other variables included life stress, problem-solving, social support, and hopelessness). Relatedly, investigating the relationship between hopelessness and suicide ideation among Hong Kong and American youth (ages 14 - 18), Stewart et al. (2005) found that Hong Kong youth participants were significantly more hopeless and depressed. The results again demonstrated cross-cultural support for hopelessness and depression as the primary predictors of suicide ideation, each uniquely predicting suicide ideation six months later, even after controlling for baseline suicide ideation for both Hong Kong and American youth ($\beta = .07, p < .01$ for hopelessness and $\beta = .09, p < .01$ for depression). Nonetheless, the associations between hopelessness and suicide ideation were found to be weaker for Hong Kong youth than
American youth (\(r = .37, r = .56\), respectively) although there was no difference in the ability of hopelessness to predict Time 2 suicide ideation (both \(r\)’s = .31).

In sum, studies have consistently found hopelessness and depression to be primary risk factors for college students and Asian American students alike. Furthermore, there is evidence that hopelessness is the key risk factor for college students and the salience of hopelessness may increase as the level of suicide behavior intensifies. However, for Asian American students, hopelessness and depression perhaps are equally important risk factors to consider at this point.

*Problem-Solving Deficits*

Among the cognitive risk factors for suicide, problem-solving deficits is another correlate that has received considerable attention, with a number of studies examining the relationship between problem-solving deficits and suicidal behavior with college students (Bonner & Rich, 1987; Chang, 1998; Clum & Febbraro, 1994; Dixon et al., 1991; Schotte & Clum, 1982; Yang & Clum, 1994, 1996). Offering the diathesis-stress hopelessness model of suicidal behavior, Schotte and Clum posited that problem-solving deficits moderate the effect of stress on hopelessness, and hopelessness, in turn, increases suicide risk. Thus, when faced with negative life stress, individuals who are deficient in adaptive problem-solving skills might react with a sense of hopelessness, which places them at greater suicide risk.

Schotte and Clum (1982) tested this model by examining the relationship among problem solving variables, life stress, hopelessness, and suicide ideation with 175 college students. In their study, problem solving ability was measured by asking participants to generate solutions to hypothetical problems. As predicted, poor problem solvers under
high stress were found to be at the greatest risk, scoring significantly higher on suicidal intent than any other groups (i.e., good problems solvers under high and low stress and poor problem solvers under low stress). Dixon and colleagues (1991) extended this study by measuring participants’ self-efficacy about problem solving. Consistent with Schotte and Clum’s model, problem-solving confidence was found to relate to suicidal behavior via its impact on hopelessness; problem solving confidence accounted for 15.2% of the variance in hopelessness while accounting for 1.4% of the variance on suicide ideation. Similarly, in a more recent study (Chang, 1998), social problem solving was found to add 8% unique variance in suicide risk above and beyond other variables such as ethnicity and personality traits (e.g., perfectionism).

Yet, the link between problem solving skills and suicide seems rather unclear when Asian American students are considered. In Chung’s (2003) qualitative study with suicidal Asian American female students, a lack of problem-solving skills emerged as a factor associated with suicidality. However, in Chang’s study (1998), none of the problem solving variables were significantly related to hopelessness or suicide risk for Asian American students, although they were for European American students. Furthermore, Asian American students scored significantly higher on impulsiveness and carelessness (e.g., “I usually go with the first good idea that comes to mind”) and on negative attitudes toward problems (e.g., “I usually feel threatened and afraid when I have an important problem to solve”) than did their European American counterparts, although they did not differ on positive problem solving attitude (e.g., “When I have a problem, I usually believe that there is a solution for it”). This pattern of low self-confidence in social problem solving appeared consistent with other findings.
demonstrating higher levels of social anxiety in Asian American students (Okazaki, 1997; Okazaki, Liu, Longworth, & Minn, 2002).

The relationship between problem solving and suicide risk also has been replicated to some extent among Asian international student participants, providing some cross-cultural support for problem solving deficits as an important suicide correlate (Yang & Clum, 1994). In Yang and Clum’s study of 101 Asian international students, problem-solving skills, along with life stress and social support, uniquely predicted suicide ideation (Partial $R^2 = .28$). Although problem-solving skills significantly predicted hopelessness ($\beta = -.36, p < .0001$) and depression ($\beta = -.23, p = .005$), the effect of problem solving skills on suicide ideation was indirectly through depression.

In sum, studies have shown that problem-solving deficits are significantly associated with greater hopelessness, which in turn affects suicide ideation in college students. However, the relationship between problem solving and suicide risk may not be as clear as far as Asian American students are concerned. Although there is some indication that problem solving deficits might relate to suicidal behavior for Asian American women, another study found no empirical data supporting the relationship between problem solving deficits and suicide.

Perfectionism

In recent years, perfectionism has gained attention as a suicide risk factor (Chang, 1998; Dean et al., 1996; Hewitt, Flett, & Turnbull-Donovan, 1992). In reviewing the literature on perfectionism, Castro and Rice (2003) described perfectionism as “a multidimensional and generally deleterious construct” (p. 65) that is associated with a myriad of psychopathological outcomes such as anxiety, low self-esteem, and poor
adjustment. Specifically, among the dimensions of perfectionism, socially prescribed perfectionism - a belief that one needs to meet expectations imposed by significant others - was found to link to suicidal ideation and behaviors in college students (Dean et al.), although the link to suicide ideation in Asian American students remains unclear.

In their study with 114 college students, Dean et al. (1996) demonstrated that socially prescribed perfectionism was significantly associated with suicide ideation \( (r = .55, p < .001) \) and accounted for unique variance (3%) in suicide ideation above and beyond hopelessness and depression. Similarly, Chang’s study (1998) indicated that perfectionism accounted for 30% of the variance in hopelessness and 18% of the variance in suicide potential above and beyond variance accounted for by ethnicity (i.e., Asian or European American; 7% in hopelessness, 9% in suicide potential). Chang’s study also revealed that, for Asian American students, although they were significantly more perfectionistic when compared to European American counterparts, perfectionism was not significantly related to either hopelessness or suicide risk. Nonetheless, in another study (Castro & Rice), perfectionism was a significant predictor of depression for Asian American students \( (R^2 = .51, p < .01) \), suggesting that perfectionism has a negative effect on psychological wellbeing for Asian American students.

In sum, there appears to be some evidence for the link between perfectionism and suicide risk in college students. Specifically, college students who hold a belief that they need to meet expectations imposed by others might feel more hopelessness and be at higher suicide risk. However, perfectionism has not been found to relate to suicide risk for Asian American students although perfectionism appears to be as an important factor
to consider in suicide assessment given its impact on hopelessness and suicide risk independent of the ethnicity status.

**Interpersonal and Contextual Risk Factors**

From the perspective of a diathesis-stress model, interpersonal and contextual risk factors constitute stressors that frequently give rise to an array of psychological maladjustment, including suicide. Many interpersonal and contextual risk factors, therefore, are not correlates unique to suicidal behavior. Nonetheless, Rogers (2001) noted that the pragmatic method of “cataloging” (p. 16) various correlates, which had been a primary focus in earlier suicide research, has helped gain some understanding in suicidal behavior in the absence of theory-driven research. Among the interpersonal and contextual risk factors for college students, studies have noted a history of family problems, relationship problems (Chung, 2003; Furr et al., 2001; Kisch et al., 2005; Westefeld & Furr, 1987; Yang & Clum, 1996), and academic and financial concerns (Furr et al.; Westefeld & Furr) as primary life stressors that contribute to suicide ideation and behavior.

In investigating contributing factors to suicide ideation and non-fatal suicide behavior, Furr and colleagues (2001) surveyed 1,455 college students from four different institutions. Among the contextual and interpersonal factors assessed in this study, the participants endorsed relationship problems (27%), money problems (26%), and conflicts with parents (20%) as factors contributing to their suicide ideation and behavior. In an earlier survey of 962 students, participants identified the contextual and interpersonal causes of suicide ideation and behavior as romantic relationships problems (30%), parental problems (22%), and money problems (14%) (Westefeld & Furr, 1987).
According to epidemiological data in 2000, relational problems and non-heterosexuality stood out as serious risk factors, increasing suicide risk by 2.9 times and 2.6 times, respectively. In addition, sexual assault and perceived obesity all increased vulnerability to suicide risk (Kisch et al., 2005).

The interpersonal risk factors found in college student studies seem consistent with the results from the Chung’s (2003) exploratory study with suicidal Asian American female students. In her study, participants reported their disappointment in romantic relationships and the conflictual parent-child relationships as precipitating factors for their suicidal behaviors. Related to college students, Lau et al. (2002) provided a comprehensive examination of suicide behavior with Asian American youth by extracting data from clinical archives that included 285 Asian American outpatient youth (ages ranging 4–17 years). Based on logistic regression analyses, several relevant risk factors were found to predict suicidal behavior in this group of Asian American youth such as parent-child conflicts and depression. Specifically, experiencing high parent-child conflict placed youths at 30 times greater risk of suicidal behavior (odds ratio = 29.6, \( p = .0001 \)). Their findings also demonstrated that level of acculturation was related to suicidality, indicating that less acculturated youths showed more suicidal behaviors (\( B = -.54, \ SE = .20, \ p = .006, \ OR = .58 \)). Furthermore, there was a significant interaction between parent-child conflict and acculturation (\( B = .42, \ SE = .21, \ p = .0447, \ OR = 1.53 \)), suggesting a moderating effect of acculturation on suicidal behavior. Specifically, the less acculturated youths were found to be at higher risk of suicide than the more acculturated when they experienced high parent-child conflict. On the other hand, when parent-child conflict was low, the level of acculturation was not found to relate to suicide.
In conclusion, it appears that Asian American students may share some interpersonal and contextual correlates of suicide with the general student population such as relational issues and parental problems. Particularly, experiencing severe conflict with parents may indicate as a greater suicide risk for Asian American students, especially for those who are less acculturated. Finally, acculturation appears to moderate the effect of stressors on suicidal behavior for Asian American youth, suggesting that acculturation may be an important cultural variable to consider in research with Asian American students.

Summary

Taken together, although the number of studies examining the correlates of suicidal behavior in Asian American college students are limited, there appear to be cumulative findings suggesting that Asian American college students do share the core negative risk factors with European American college students. Among the negative risk factors reviewed in this section, hopelessness and depression appear to be important risk factors for Asian American students. Moreover, Asian American students may experience higher levels of hopelessness and suicide ideation than do European American students. In addition, although problem-solving deficits and perfectionism were found to significantly relate to suicidal behavior for college students, the extent to which problem solving and perfectionism are related to suicide in Asian American students remains unclear. Finally, the issue of acculturation appears to be a culturally relevant variable to consider when exploring Asian American student suicide.
Protective Factors of Suicide

In recent years, researchers have begun questioning the value of relying solely on risk factors in suicide assessment and have argued for examining protective factors as well (Connell & Myer, 1991; Dyck, 1991; Guiterrez et al., 2000; Heinz et al., 2005; Linehan et al. 1983; Malone et al., 2000; Muehlenkamp et al., 2005; Osman et al., 1999; Rogers & Hanlon, 1996; Rothberg & Geer-Williams, 1992; Scheel, 1999; Westefeld et al., 1992; Westefeld et al., 1996; Westefeld et al., 2000). Guiterrez and others asserted that examining protective factors would lead to more confident assessment and better engagement with clients.

For example, on the basis of their study with 211 college students, Guiterrez et al. (2000) demonstrated that a combination of both risk and protective factors might offer a better alternative to any measure of suicide risk assessment alone. In their attempt to determine the most parsimonious set of measures that tap into cognitive, affective, and behavioral aspects of suicidality with college students, they examined a group of well-established suicide assessment instruments (i.e., the Adult Suicidal Ideation Questionnaire [ASIQ; Reynolds, 1991]; Suicide Probability Scale [SPS; Cull & Gill, 1982]; the Multi-Attitude Suicide Tendency Scale [MAST; Orbach et al., 1991]; Reasons for Living Inventory [RFL; Linehan et al., 1983]). An exploratory principal-axis factor analysis of these suicide measures resulted in two interpretable factors (i.e., negative and protective factors); thus, supporting “two distinct aspects of university students’ overall suicide risk” (p. 410). Factor 1, consisted of most of the negative suicide measures (i.e., the MAST-Repulsion by Life, SPS-Hopelessness, ASIQ, SPS-Suicide Ideation, SPS-Hostility, and SPS-Negative Evaluation) and two protective measures (the Survival and
Coping Beliefs subscale from the RFL, and MAST-Attraction to Life), accounting for 
28% of the total variance. Factor 2 consisted of the remaining subscales of the RFL (i.e., 
Fear of Social Disapproval, Fear of Suicide, and Responsibility to Family) accounting for 
an additional 8.2% of the total variance. Thus, the combination of repulsion to life, 
hopelessness, suicidal ideation, hostility, negative self-evaluation, low survival and 
coping beliefs, and low attraction to life suggested an overall negative factor, whereas 
fear of social disapproval, fear of suicide, and a sense of responsibility to one’s family 
suggested an adaptive and protective factor.

The findings of Gutierrez and colleagues (2000) supported an earlier study that 
suggested that protective beliefs and coping skills were important protective factors for 
suicidal college students and that assessing protective factors might add to discriminating 
suicidal students from non-suicidal students (Connell & Meyer, 1991). For example, in 
their study of 205 undergraduate students, Connell and Meyer examined reasons for 
living as measured by the RFL. In this study, they categorized participants into four 
groups: no history of suicide ideation, history of brief suicide ideation, history of serious 
ideation, and history of non-fatal suicide behavior. A multivariate analysis of variance 
indicated a significant main effect on the six subscales of the RFL (Wilks’ lambda = .677, 
$F_{(18, 543)} = 4.459, p < .001$). In addition, based on univariate analyses of variance, the 
Survival and Coping Beliefs, Responsibility to Family, and Moral Objections Subscales 
were found to be significant, suggesting these subscales may potentially discriminate 
between these four groups. Specifically, the participants with no history of suicidal 
ideation reported significantly more survival and coping beliefs than those with a history 
of brief suicide ideation, history of serious suicide ideation, and history of non-fatal
suicide behavior combined, $F(1,210) = 46.68, p < .01$. In addition, each less-serious suicide participant group scored significantly higher on survival and coping beliefs. Similarly, the participant group with no history of suicide ideation and with a history of brief suicide ideation showed higher responsibility to family and moral objections to suicide than did those with a history of serious suicide ideation and non-fatal suicide behavior.

Interested in examining the cross-cultural utility of assessing both risk factors and protective factors, Muehlenkamp et al. (2005) expanded this line of investigation by examining the Positive and Negative Suicide Ideation Inventory (PANSI; Osman, Gutierrez, Kopper, Barrios, & Chiros, 1998) with a diverse sample of college students (i.e., 220 Caucasian, 127 African American, 42 Latino/Hispanic, and 39 Asian Americans). The PANSI is a 14-item inventory designed to measure positive ideation (PANSI-PI; e.g., “felt excited because you were doing well at school or at work” p. 441) and negative suicide ideation (PANSI-NSI; e.g., “thought about killing yourself because you could not accomplish something important in your life?” p. 442). The results of a confirmatory factor analysis (chi-square = 93.33, $df = 76, p = .09$; NNFI = .96, R-CFI = .97, RMSEA = .033) supported a two-factor model with the combined racial/ethnic minority participants (i.e., African, Hispanic/Latino, and Asian Americans). Thus, the results of their study suggested that suicide assessment should include both risk and protective factors for those with diverse racial/ethnic backgrounds as well.

Furthermore, in Muehlenkamp et al.’s study (2005), the positive ideation scores correlated significantly with risk measures and protective measures across all groups. Specifically, for Asian American students, the positive ideation scores correlated
significantly with suicidal behavior as measured by the Suicidal Behaviors Questionnaire-Revised (SBQ-R; Osman et al., 2001; r = -.42, p < .5), with hopelessness as measured by the BHS (r = -.63, p < .01), and with reasons for living (r = .35, p < .05) as measured by the Reasons for Living Inventory for Young Adults (RFL-YA; Gutierrez et al., 2002), controlling for negative ideation.

The results also showed a significant main effect for racial/ethnic group though not for sex (Wilks’ lambda = .95, F(6,778) = 33.02, p < .003, partial eta-squared = .025), suggesting that protective factors may differ as a function of race/ethnicity. Specifically, Asian American students scored significantly lower on the PANSI-PI than all other groups, suggesting that Asian American students reported lower level of protective factors (i.e., positive attitudes and beliefs about the future) as they were operationalized in the PANSI. European American students scored significantly higher than Asian American students (Cohen’s d = .85) and African American students (Cohen’s d = .34) on the protective factors (i.e., positive ideation scale).

In response to these group differences, Muehlenkamp et al. (2005) speculated that the positive ideation scale might not reflect culturally salient protective factors for Asian American students and, to a lesser extent, for African American students. For example, they noted that the items for positive ideation reflected the values of the European culture that emphasizes independence while ignoring the values of family cohesion and communalism that are salient to Asian Americans and African Americans. Additionally, an important limitation was a lack of information about acculturation; thus, the potential effect of acculturation on suicide assessment process was not addressed. Another notable limitation of this study was the relatively small representation of Asian American
participants, substantially limiting its generalizability to the broader Asian American student population.

In sum, recently suicide assessment has moved beyond focusing solely on negative risk factors to including the examination of protective factors. The empirical data have also supported the contention that protective factors constitute an important component of suicide assessment, including racially and ethnically diverse groups of students such as Asian Americans. Assessing protective factors may allow for more accurate assessment and provide important insight into understanding suicidal college students, potentially promoting better engagement with suicidal individuals. However, there has been a dearth of studies that examine protective factors specifically with Asian American students, substantially limiting our ability in working with this group of students. Furthermore, there is some evidence that protective factors may differ as a function of race/ethnicity, particularly for Asian American students. Given the importance and the complexity of the issue of suicide, a further exploration of protective factors with Asian American students appears strongly indicated at this point. In particular, studies have suggested that the measurement instruments that are developed within Eurocentric assumptions may not adequately reflect the worldview shared by individuals from diverse cultural backgrounds, especially Asian American college students. Thus, cultural validation of such instruments is urgently needed for use in research, assessment, and the development of evidence-based practice with Asian American college students.
Cognitive Theory and Reasons for Living

Cognitive theory posits that behaviors of individuals are determined primarily by how they perceive self, others, and the world around them (Beck, 1996). In the course of life, individuals develop cognitive schemas that reflect their expectations and beliefs about self, others, and the world based on their experience of internal and external influences. Hence, to the extent that the individuals’ cognitive schemas guide their behaviors, adaptive cognitive schemas are essential to human survival. Conversely, dysfunctional, maladaptive cognitive schemas may give rise to psychopathology and maladaptive behavior, including suicide.

From this cognitive theoretical perspective, Beck and colleagues (1974) theorized that hopelessness, a cognitive distortion that reflects negative expectancies toward the future, is the core determinant of suicidal behavior. The resulting Beck Hopelessness Scale (BHS) has been widely used, and the empirical support linking the construct of hopelessness with increased suicidality has been shown across numerous studies with general and clinical populations, including college students (e.g., Beck et al., 1989; Cole, 1988; Dixon et al., 1991; Gutierrez et al., 2000; Schotte & Clum, 1982; Steed, 2001; Osman et al., 1999).

Following the tradition of suicide research grounded in cognitive theory, Linehan and colleagues (1983) also argued, “one of the factors differentiating suicidal from nonsuicidal persons is the content of their belief systems” (p. 277). They asserted that nonsuicidal individuals hold a set of adaptive, life-oriented cognitive schemas and that reasons for living, functioning as protective factors, might mitigate against suicide. Subsequently, the Reasons for Living Inventory (RFL) was developed to measure a range
of beliefs that potentially protect against suicide by compiling items generated by a diverse group of people (e.g., college students, senior citizens, factory workers, middle aged persons) and in various settings (e.g., Miami Beach, Scranton, Pennsylvania, a U.S. Senate Office). As reviewed earlier, studies have supported that nonsuicidal individuals tend to hold life-affirming beliefs and report more reasons for living (e.g., Connell & Meyer, 1991; Dyck, 1991; Guiterrez et al. 2000; Muehlenkamp et al., 2005; Rogers & Hanlon, 1996; Scheel, 1999; Westefeld et al., 1992; Westefeld et al., 1996), and the RFL has been found to be useful in assessing suicidality in general and clinical populations (Connell & Meyer; Gutierrez et al., 2000; Linehan et al.; Malone et al., 2000; Osman et al., 1999). In keeping with support for theory-driven suicide research (e.g., Jobes et al., 1997; Rogers, 2001, 2003), the RFL has been noted as having the advantage of “a solid theoretical base” (Range, 2005, p. 138).

The RFL consists of 48 items and six subscales: (a) Survival and Coping Beliefs (e.g., “I believe I can find other solutions to my problems”), (b) Responsibility to Family (e.g., “My family depends on me and needs me”), (c) Child-Related Concerns (e.g., “The effect on my children would be harmful”), (d) Fear of Suicide (e.g., “I am afraid of the ‘act’ of killing myself”), (e) Fear of Social Disapproval (e.g., “Other people would think I am weak and selfish”), and (f) Moral Objections related to suicide (e.g., “My religious beliefs forbid it”). Internal consistency reliabilities for the subscales were found to be moderate-to-high, ranging from .72 to .95 (Linehan et al., 1983; Osman, Gifford, Likiss, Osman, & Wenzel, 1993; Osman et al., 1999). Studies have also shown that the RFL adequately differentiated suicidal individuals from nonsuicidal individuals above and
beyond the effect of recent stress (Linehan et al.; Malone et al., 2000; Osman et al., 1993; Osman et al., 1999).

For example, in Linehan and colleagues’ study (1983), multivariate analysis of variance (MANOVA) indicated significant differences (Wilks’ lambda = .71, $F$ (18, 532) = 3.76, $p < .0001$) among those with varied level of suicidality (i.e., never considered, briefly considered, seriously considered, and engaged in non-fatal suicide behavior). Subsequent planned comparisons also showed that the participants who reported any history of suicidal behavior had significantly lower survival and coping beliefs, felt less responsibility to family, and had fewer child-related concerns than those who never considered suicide, although they did not differ on scores for fear of social disapproval or moral objections. In addition, the Fear of Suicide subscale stood out as the only subscale that differentiated individuals with history of serious suicide ideation from those who had engaged in non-fatal suicidal behavior ($t = -2.39$, $p < .02$), suggesting individuals with a history of non-fatal suicidal behavior may be less fearful of the act of suicide compared to someone who had serious suicide ideation. This finding is consistent with Joiner’s model of suicide (Joiner et al., 2005) that posits that tolerance to pain is one of key components of suicide. With each suicide attempt, individuals become progressively more fearless and even courageous about pain associated with self-harm and that repeated exposure to self-injurious acts is directly linked to suicide.

In addition, among the non-clinical participants, correlational analyses of the RFL scales with recent suicide ideation and future suicidal behavior indicated that recent suicide ideation was related to low survival and coping and high fear of suicide ($r = -.30$, $p < .001$ and $r = .30$, $p < .001$, respectively) and future suicide behavior was related to
low survival and coping and low responsibility to family \( (r = -0.29, p < 0.001 \text{ and } r = -0.24, p < 0.001, \text{ respectively}) \) (Linehan et al., 1983). Among clinical participants, four subscales of the RFL were found to significantly relate to recent suicidal behavior and the likelihood of future suicidal behavior. Specifically, future suicidal behavior was significantly and positively related to low survival and coping beliefs, low responsibility to family, low child-related concerns, and low moral objections (Linehan et al.).

Thus, empirical evidence for the RFL seems to further solidify the theoretical strength of cognitive theory as a guiding principle in developing hypotheses for cognitive suicide protective factors. Needless to say, however, cognitive schemas do not exist in a cultural vacuum, and many researchers have suggested that beliefs about suicide are embedded in culture (Lester, 1997; Range et al., 1999; Westefeld et al., 2000). In examining cultural differences, Shiang et al. (1997) argued, “Beliefs concerning death, its meanings, and attributions made in the act of suicide, are thus formed, to a large degree, by cultural practices” (p. 82). Accordingly, cognitive schemas rooted in the Asian cultural belief system (e.g., obligation to family, interpersonal harmony, shame) may influence culturally salient reasons for living and differ from those reflected in Eurocentrically developed instruments. For example, with the emphasis on relational harmony in Asian cultural beliefs, obligation to one’s family may be a significant adaptive, life-affirming reason for living for an Asian American student.

The College Student Reasons for Living Inventory

In response to the emerging interest in protective factors and empirical support found with the RFL, Westefeld and colleagues (1992) posited that college student reasons for living would differ from those of nonstudent and adult populations. Thus, they
argued that college students’ reasons for living ought to reflect the cognitive schemas consistent with their specific developmental needs and the demands associated with being in college. Accordingly, Westefeld et al. developed the College Student Reasons of Living Inventory (CSRLI), modeled after the original RFL and based on its theoretical propositions.

As detailed in their study, Westefeld et al. (1992) began by compiling a pool of 217 statements from 125 college students who were asked to generate “reasons why you would not commit suicide even if the thoughts were to cross your mind” (p. 444). Through content analyses, these statements were further reduced to 84 items. Using these 84 items, a survey was conducted with 384 students who rated the degree of importance of each item. After a series of factor analyses on their responses, a final set of 46 items was retained based on factor loading and conceptual fit.

Construct Validity: Factor Structure of the CSRLI

According to factor analyses from Westefeld et al.’s two studies (1992), the CSRLI has six factors, accounting for between 43% and 48% of the total variance. These six factors were identified as Survival and Coping Beliefs, College and Future-Related Concerns, Moral Objections, Responsibility to Friends and Family, Fear of Suicide, and Fear of Social Disapproval. Although four factors were analogous to the factors found in the original RFL, two of the factors were specific to college students, denoting the importance of educational/future goals and peer relationships (i.e., College and Future-Related Concerns and Responsibility to Friends and Family).

To further validate the factor structure of the CSRLI, Rogers and Hanlon (1996) conducted factor analyses using data from 511 college students (84% Caucasian
American, 10% African American; 31% male, 69% female). Although their confirmatory factor analysis did not yield a good fit (Chi-square = 3346.11, df = 974, p < .001; Bentler and Bonnett’s non-normed index = .75, Bentler’s comparative fit index = .76, James, Mulaik, and Brett’s parsimonious index = .65), the follow-up exploratory factor analysis (EFA) again supported the six factor solution, suggesting stability of the factor structure in their sample. The six-factor solution accounted for 45% of the total variance, similar to the variance statistics reported previously (i.e., Westefeld et al., 1992). At the same time, some inconsistencies in the factor loadings were also observed as compared to prior research. Specifically, using the criterion of .30 or greater as meaningful loading, nine items did not load on any factors, although the content of the factor remained stable (i.e., maintaining original interpretation) despite the failed items. Although they cautioned the result of the study might be a sample specific result, Rogers and Hanlon recommended further empirical investigation and monitoring of performances of these items in future studies. To date, factor analysis has not been performed using data from students with diverse racial/ethnic backgrounds, including Asian American students.

*Internal Consistency Reliability*

Overall, the internal consistency reliabilities appeared to be strong for the CSRLI as a whole and were deemed adequate to strong across the subscales, with the exception of the Fear of Social Disapproval Subscale (Rogers & Hanlon, 1996; Scheel, 1999; Westefeld et al., 1992; Westefeld et al., 1996a, 1996b; Westefeld, Scheel, & Maples, 1998). The reliability estimates for the total score and the six subscales from the studies (Rogers & Hanlon; Westefeld et al., 1992; Westefeld et al., 1996b; Westefeld et al.,
have ranged from .91 to .93 for the total score, from .81 to .93 for Survival and Coping Beliefs, from .85 to .88 for College and Future Related Concerns, from .80 to .86 for Moral Objections, from .78 to .89 for Responsibilities for Friends and Family, from .71 to .81 for Fear of Suicide, and from .45 to .71 for Fear of Social Disapproval.

Consistent with findings of research with mostly European American students, the reliability estimates with participants from diverse backgrounds were found to be adequate to strong. With African American participants, the estimate was .91 for the overall instrument, and the estimates for Survival and Coping Beliefs, College and Future Related Concerns, Moral Objections, Responsibilities for Friends and Family, Fear of Suicide, and Fear of Social Disapproval were .92, .84, .79, .80, .61, and .64, respectively (Westefeld et al., 1996a). With American Indian student participants (Scheel, 1999), the results again showed moderate-to-high internal consistencies for the full scale as well as the subscales regardless of their cultural orientation and competence (e.g., tribally-oriented, bicultural, Anglo- culture, neither) ranging from .77 to .92, again with the exception of the Fear of Social Disapproval Subscale (i.e., .69). The brevity of the Fear of Social Disapproval Subscale might be a reason for the low reliability of this subscale (Kahn, 2006; Scheel, 1999). Taken together, the extant data on the CSRLI indicate adequate to high internal consistency reliabilities across studies and across diverse groups of students, with the exception of the Fear of Social Disapproval Subscale.

Convergent Validity

Thus far, a number of studies have supported the convergent validity of the CSRLI as noted by observed correlations between the CSRLI and suicide risk (Scheel, 1999; Westefeld et al., 1992; Westefeld et al., 1996a, 1996b; Westefeld et al., 1998) and
other relevant psychological variables such as depression (Scheel; Westefeld et al., 1992) and hopelessness (Scheel) in predicted directions. As detailed next, convergent validity was shown across diverse groups of students such as college students (Westefeld et al., 1992, Westefeld et al., 1996b), counseling center clinical participants (Westefeld et al., 1998), and racial/ethnic minority students (Scheel, 1999; Westefeld et al., 1996a).

**General student populations.** In the study with 208 college students (Westefeld et al., 1992), CSRLI scores were significantly negatively related to suicide risk as measured by the author-developed Suicide Risk Questionnaire (SRQ; Westefeld et al. 1992) and depression as measured by the Beck Depression Inventory (BDI; Beck, Ward, Mendelsohn, Mock, & Erbaugh, 1961), suggesting that higher endorsement of reasons for living (i.e., more reasons for living) was related to lower levels of suicide risk and self-reported depression. Specifically, the CSRLI total score was negatively associated with past suicide risk \(r = -.37\), current suicide risk \(r = -.26\), and future suicide risk \(r = -.31\), and all but one correlation between the CSRLI subscale scores and past, current, and future suicide risks were negative. Among the subscales, Survival and Coping Beliefs revealed the largest correlation coefficients (i.e., ranging from -.50 with current risk to -.56 with past risk). Additionally, all CSRLI scales but Fear of Suicide were found to negatively relate to depression. Pearson correlation coefficients between the subscale scores and depression were significant at the .05 level for Survival and Coping Beliefs (-.47), College and Future Related Concerns (-.21), Moral Objections (-.22), and Fear of Social Disapproval (-.20). On the other hand, correlations between depression and Responsibility to Friends and Family and Fear of Suicide did not reach statistical significance.
**Clinical populations.** The validity of the CSRLI was also supported in a clinical population (Westefeld et al., 1998). Based on 87 counseling center clients, the CSRLI total score was again significantly related to past, current, and future suicide risk, ranging from -.21 (current risk) to -.46 (future risk). Among the subscales, Survival and Coping Beliefs and College and Future Related Concerns consistently showed significant relationships with past, current, and future suicide risks, with correlation coefficients ranging from -.22 to -.60. Additionally, Moral Objections (-.31), and Fear of Social Disapproval (-.27) were found to significantly relate to a self-reported future likelihood of suicide risk.

**Racial/ethnic minority populations.** Consistent with findings among mostly European American students, higher CSRLI scores were also found to be significantly associated with lower levels of suicide risk for African American students (Westefeld et al., 1996a) and American Indian college students (Scheel, 1999). In Scheel’s study with American Indian college students, the CSRLI total score differentiated between the current risk and non-risk groups (Cohen’s $d = .74$) and was significantly related to hopelessness ($r = -.33, p < .03$) and depression ($r = -.14, p < .0001$).

Among the CSRLI subscales, Survival and Coping Beliefs and College and Future Related Concerns were consistently found to be useful (Scheel, 1999; Westefeld et al., 1996a). For African American student participants, lower levels of self-reported suicide risk were significantly associated with higher levels of endorsement on Survival and Coping Beliefs, $F(1,72) = 16.8, p < .01$ and College and Future Related Concerns, $F(1,72) = 16.8, p < .01$ (Westefeld et al.). For American Indian student participants, large univariate effect sizes (i.e., the standardized mean differences between the no risk
group and the risk group) were observed for Survival and Coping Beliefs and College and Future Related Concerns (e.g., between the no current risk group and the current risk group, Cohen’s $d = 1.18$ and .73 respectively) (Scheel). In addition, Responsibility to Friends and Family and Moral Objections showed medium effect sizes (Cohen’s $d = .46$ and .52, respectively). However, Fear of Suicide and Fear of Social Disapproval did not significantly relate to suicide risk except for those with past suicide risk. Participants with past suicide risk scored significantly higher on Fear of Suicide than those without past suicide risk ($M = 2.78$ vs. $M = 3.08$, $SD = 1.13$). Scheel speculated that a curvilinear relationship might exist between Fear of Suicide and past suicide risk; those who have never felt suicidal or who actually have made suicidal attempts might consider fears of suicide as less important reasons for living than those who have considered suicide but not attempted.

Similarly, Scheel (1999) also found significant correlations between some of the subscales and depression and between the subscales and hopelessness. Among subscales, Survival and Coping Beliefs showed the largest correlations with depression and hopelessness ($r = -.50, p < .0005$ and $r = -.51, p < .0005$, respectively). College and Future Related Concerns and Moral Objections were significantly related to depression ($r = -.13, p < .04$ and $r = -.12, p < .05$, respectively) and hopelessness ($r = -.28, p < .0005$ and $r = -.23, p < .0005$, respectively). On the other hand, Responsibility to Friends and Family showed a small, yet significant relationship with hopelessness ($r = -.16, p < .02$), but not with depression whereas Fear of Suicide was significantly positively related to depression ($r = .28, p < .005$), but not to hopelessness ($r = .07, p = .27$). Finally, Fear of
Social Disapproval was not found to significantly relate to depression or hopelessness in her study.

Although these studies have provided some evidence for the validity of the CSRLI for non-White racial/ethnic minorities (i.e., Scheel, 1999; Westefeld et al., 1996a) data remain rather inconsistent in terms of the CSRLI scores. For example, Westefeld et al. found that African American students scored significantly lower than did European Americans on total reasons for living ($M = 3.98, SD = .74$ vs. $M = 4.14, SD = .62$), and on the subscales of Moral Objections, Responsibility to Friends and Family, Fear of Suicide, and Fear of Social Disapproval. In contrast, Rogers and Hanlon (1996) found no significant mean score difference between African American and European American students in their study. However, these findings are at odds with generally lower suicide rates for African Americans, suggesting a need for further examination of cultural specificity in reasons for living.

Related to issues of race/ethnicity, the effect of acculturation was not found to be significant for American Indian student participants (Scheel, 1999). That is, no significant main effect or significant interactions of acculturation were found between the CSRLI and suicide risk, suggesting that the CSRLI total score and subscales were valid across the cultural orientation groups for these American Indian student participants.

**Gender Differences in the CSRLI Scores**

Mirroring the gender difference in suicide rates, studies have also demonstrated that the CSRLI scores differ as a function of gender, indicating higher reasons for living for women on the total score as well as on some subscales (Rogers & Hanlon, 1996; Scheel, 1999; Westefeld et al., 1996b). Specifically, in Westefeld et al.’s study, female
participants showed significantly higher mean scores than male participants on the total score and three subscales (i.e., the Moral Objections, the Responsibility to Friends and Family, and Fear of Suicide Subscales). Similarly, in Rogers and Hanlon’s study, female participants endorsed higher reasons for living than their male counterparts, $F(1,509) = 20.44, \ p = .001 \ (M = 170.32, \ SD = 22.78 \ vs. \ M = 159.99, \ SD = 26.27)$, particularly on Responsibilities to Friends and Family ($M = 33.26, \ SD = 6.39 \ vs. \ M = 30.85, \ SD = 7.59$) and Fear of Suicide ($M = 16.39, \ SD = 6.84 \ vs. \ M = 12.71, \ SD = 6.12$). Similarly, in Scheel’s (1999) study with American Indian students, the CSRLI scores differed as a function of gender; women had significantly higher CSRLI total scores ($M = 4.24, \ SD = .73 \ vs. \ M = 3.87, \ SD = .73$) and four subscale scores (College and Future Related Concerns, Responsibility to Friends and Family, Moral Objections, and Fear of Suicide) although their scores did not significantly differ on Survival and Coping Beliefs or Fear of Social Disapproval. As noted by the authors, these findings appeared to be supported by suicide literature that has shown overall lower suicide rates for women.

The Clinical Utility of the CSRLI

In their study, Westefeld et al. (1992) further examined the construct validity of the CSRLI by conducting discriminant analyses to determine whether the linear combination of the six CSRLI subscales could reclassify the participants into no-risk and risk groups as determined by the Suicide Risk Questionnaire (Westefeld et al.) scores. The results demonstrated that the CSRLI subscale scores reclassified 83% of the participants into the suicide risk groups. Specifically, the results from univariate analyses of variance suggested that four of the CSRLI subscales were useful: Survival and Coping
Beliefs, College and Future Related Concerns, Moral Objections, and Responsibility to Friends and Family.

Similarly, examining the clinical utility of the CSRLI with American Indian students, Scheel (1999) conducted logistic regression analyses with scores for the Center for Epidemiologic Studies – Depression Scale (CES-D, Radloff, 1997), the BDI hopelessness item, and the six CSRLI subscales as predictors and the SRQ based suicidal risk groups as the dependent variable. Results of the logistic regression analysis indicated that the six CSRLI subscales, the CES-D, and the BDI hopelessness item together correctly classified the suicide risk group. In addition, the CSRLI subscales slightly but significantly improved predictions of suicide risk over depression and hopelessness alone. For example, the combined model of hopelessness and depression correctly reclassified 89% of participants with current suicide risk, and the full model that included the CSRLI subscales correctly reclassified 92% of participants. Furthermore, the inclusion of the CSRLI subscales substantially improved the sensitivity (i.e., correctly identifying those at suicide risk) from 46% to 63% over the model based on depression and hopelessness. On the other hand, specificity (i.e., correctly identifying those not at risk) did not change (i.e., 97%). As Scheel noted, sensitivity rate has more clinical value in the assessment of suicidality given the consequence of not identifying those at risk.

Summary

In conclusion, there appears to be strong cumulative support for the CSRLI as a suicide assessment instrument for college students in general and some support for its use with those from diverse backgrounds such as African American and American Indian students. As a whole, suicidal college students scored lower on reasons for living than
did their non-suicidal counterparts. At the same time, the CSRLI appears to tap into reasons for living relevant to college students, different from the original Reasons for Living Inventory (Linehan et al., 1983) for adults, supporting the utility of an instrument specific to college students.

As an alternative to the RFL and a scale specific to college students, studies have supported the construct validity for the CSRLI, and the results of factor analyses indicated some stability in the six factor solution. Similarly, internal consistency reliabilities were found to be adequate to high for all but one subscale across diverse groups of students, including African American and American Indian students. The construct validity of the CSRLI was further supported by correlations with other suicide risk factors such as depression and hopelessness. Furthermore, gender differences on the total score and some of the subscales, with women scoring higher, were consistent with the suicide literature indicating lower suicide rates for women, lending additional support for the CSRLI. More importantly, the CSRLI, as an instrument examining protective factors for suicide, appears to account for variance above and beyond those by assessment instruments limited to suicide risk factors.

Yet, the validity of the CSRLI with Asian American college students, adequately representing the underlying latent construct of reasons for living for this group, is unknown at this point. Furthermore, cognitive theory would predict that adaptive, life-oriented cognitive schemas (i.e., reasons for living) within the collectivistic Asian cultural beliefs and values might differ from the individualistic adaptive schemas that underlie the construct of reasons for living in the CSRLI.
Thus, given the empirical evidence for the utility of the CSRLI as the only scale focused for college students on this issue, examining the cultural validity of the CSRLI with Asian American students appears to be a worthwhile and timely endeavor at this point. Furthermore, such a investigation may provide much needed understanding of suicide protective factors for this population, and potentially resulting in directions for improving this instrument.

Cultural Issues Salient to Asian American College Students

In examining Asian American college student suicide and reasons for living, understanding cultural values and beliefs seems crucial, as Asian American students may not share the individualistic Eurocentric cognitive schemas that underlie the CSRLI. Moreover, Asian Americans tend to hold internalized Asian cultural values well beyond the first and second generation, although the degree to which they espouse such values may differ depending on their level of acculturation (Kim et al., 1999; Ying, Coombs, & Lee, 1999).

Asian Cultural Values

Within-group differences in Asian Americans notwithstanding, scholars have concluded that Asian cultural values can be described as collectivism, which focuses on interdependence and emphasizes primacy of social ties, relational harmony, and obligations to groups and one’s family, as opposed to individualism in the U.S. (Kim et al., 1999; Ng et al., 2003; Oyserman et al., 2002; Sue & Sue, 2003; Uba, 1994). Empirically, Kim et al. identified six dimensions of Asian cultural values shared by Asian Americans: collectivism, conformity to norms, emotional self-control, family recognition through achievement, humility, and filial piety.
As scholars have noted, although the importance of relational harmony is ubiquitous in all societies and fundamental to human well being (Ng et al., 2003; Oyserman et al., 2002), the difference between the European Americans and Asian Americans lies with the degree, intensity, and expression of these values (Ng et al.; Oyserman et al.; Uba, 1994). Although relational harmony is viewed as an important imperative in the collectivistic worldview, meta-analyses on studies examining collectivism and individualism concluded that the core element of collectivism is a sense of duty and obligation to family (Oyserman et al.). For example, European American students were found not to differ from Chinese American students on valuing the importance of family; however, European American students considered their family obligations as a personal choice, unlike Chinese American students to whom it was not a matter of choice (Oyserman et al.).

Theoretically, these collectivistic values such as relational harmony, conformity to norms, social obligation, and filial responsibilities help shape cognitive schema around suicide for Asian American students consciously and unconsciously (Choi et al., in press; Shiang, 1998). For example, with the emphasis on family obligation and relational harmony, suicide may be seen as selfish and disrespectful (Range et al., 1999). At the same time, within shame-oriented cultures such as Asian communities, suicide may also be viewed as an honorable act, an acceptable alternative or response to dishonor and shame in order to save face (Choi et al.; Domino & Takahashi, 1991; Lester, 1997; Range et al., 1999). Similarly, Lester asserted that shame is a major component in suicide and shame-motivated suicide is particularly common in a shame-oriented society such as those in Asia. Elaborating on the cultural differences, Shiang further emphasized the
issue of interdependency in understanding suicide in Asian culture. Hence, Shiang described suicide as a “social act” (p. 345), in that the group shares the responsibility for suicide of its members. As such, Shiang wrote,

In Western cultures, the question commonly asked is: Why? Why did this happen?” The perspective is that the individual has made a “choice” to commit suicide. In Asian culture the question often asked is “Who caused this death? Who drove this person to suicide?”(p. 346)

Thus, given the emphasis on family obligation and interdependency, especially within the context of family structure, a strong sense of responsibility to one’s family may serve to protect against suicide. For Asian American students, completing an educational goal is not only a source of personal and familial honor, but also an obligation to their parents (Kim et al., 1999; Yeh, 2003). Furthermore, it is conceivable that avoiding shame can also function as a protective factor for suicidal Asian American students. Specifically, suicide may cause a family to lose face in its community for having failed to care for the children properly (e.g., lack of guidance or affection). In response to their personal difficulties, Asian American students may weigh the potential shame and disgrace that their suicide would bring to their family and find it to be a reason for living.

In sum, Asian cultural values and beliefs are characterized as collectivistic, emphasizing interdependence and family obligation. Scholars have suggested that suicide should be considered in relational terms in Asian culture. Especially from this interdependent self-construal, shame and social obligation seem further to distinguish Asian cultural values from Eurocentric individualism and may influence the way suicide
is viewed for Asian Americans. In particular, the cultural beliefs of obligations to family and avoiding bringing shame to family may also become life-affirming reasons for Asian American college students, supporting a need for further exploration.

**Acculturation**

Acculturation refers to a bilinear process of change that individuals experience in relation to their culture of origin and the dominant culture and is considered to be an important variable to examine in research and assessment with Asian Americans (Kim & Abreu, 2001; LaFromboise, Hardin, Coleman, & Gerton, 1993; Zea, Asner-Self, Birman, & Buki, 2003), including suicide assessment (Choi et al.). Empirically, level of acculturation was found to relate to mental health for Asian American college students (Chung, 2001), with intergenerational conflict for Asian American youths (Yeh, 2003), and with suicide risk for Asian American outpatient youths (Lau et al., 2002). Similarly, acculturation stress has been shown to have a negative impact on psychological well-being for Asian American youth (Yeh) as well as Latino/Latina American youth (Hovey & King, 1996). Furthermore, acculturation, as determined by the extent to which individuals adhere to Asian cultural values, was found to inversely relate to help-seeking behavior (Kim & Omizo, 2003), but to positively relate to the quality of client-counselor relationship (Kim & Atkinson, 2002; Kim, Li, & Liang, 2002).

Furthermore, a study of suicidal outpatient Asian American youth (Lau et al., 2002) demonstrated an association between level of acculturation and suicidality, indicating that less acculturated youths exhibited more suicidal behaviors ($B = -.54$, $SE = .20$, $p = .006$, $OR = .58$). However, level of acculturation was found to relate to
suicidality only under the high parent-child conflict condition, moderating the relationship between parent-child conflict and suicidal risk.

In sum, acculturation has been found to be significantly associated with a number of psychological variables for Asian Americans, suggesting that it is a culturally salient variable to be considered. However, one important limitation of current suicide literature is a lack of attention to acculturation as an important variable in understanding suicidal behaviors for Asian American students.

Conclusion

In conclusion, the literature review supports the contention that Asian American college student suicide is an important health issue, and more focused research with Asian American students is needed to meet the challenge of providing culturally valid assessment and intervention. However, although the suicide literature has moved beyond focusing solely on risk factors and has begun exploring protective factors against suicide, there has been a lack of attention given to protective factors against suicide for Asian American students. Furthermore, assessing protective factors appear to be an important component of suicide assessment across diverse groups of students, including Asian Americans. However, until now, there have been no studies specific to Asian American college students.

Among assessment and research instruments for protective factors, the CSRLI is the only such scale that was developed specifically for college students and has shown some evidence of cultural validity with diverse groups of students such as African American and American Indian students. Furthermore, studies have also demonstrated that the CSRLI aids assessment above and beyond a risk factor approach alone.
Cognitive theory, which underlies the CSRLI, posits that non-suicidal individuals hold a set of life-affirming beliefs that differ from that of suicidal individuals. Thus, adaptive cognitive schemas rooted in Asian cultural beliefs may not be consistent with those reflected in the Eurocentrically-developed CSRLI. To date, however, despite the apparent utility of the CSRLI, the cultural validity of the CSRLI, including the latent factor structure of the scale, with Asian American students remained unknown.

Among the risk factors reviewed in this section, problem solving deficits and perfectionism have shown inconsistent findings with Asian American students, needing further research. On the other hand, hopelessness and depression were supported as important risk factors with Asian American students. Therefore, in examining the cultural validity of the CSRLI, investigating the relationships between the CSRLI and these two risk factors (i.e., hopelessness and depression) would further clarify the cultural validity of the CSRLI with Asian American students. Finally, additional consideration is indicated for exploring cultural variables (i.e., acculturation, family obligation, and shame avoidance) as to what extent those cultural variables relate to the CSRLI and other main research variables.

Purpose and Research Questions

Despite the recent gain in understanding and assessing protective factors in the suicide literature, limited data are available for Asian American college students in this regard. Thus, the purpose of the present investigation was to advance our understanding of suicide protective factors for Asian American college students by examining the cultural validity of a known measure of protective factors, the College Student Reasons for Living Inventory. In addition, exploratory analyses were conducted focusing on the
potential correlations between the cultural variables (i.e., acculturation, family obligation, and desire to avoid bringing shame to family) and the primary research variables. Finally, reasons for living generated by participants in this study were explored for additional themes that are not reflected in the CSRLI but specific to Asian American students.

Based on a review of the literature, the following research questions were investigated.

1. What is the nature of the underlying factor structure of the CSRLI for Asian American college students and how does it compare to the original factor structure for the European American students?
2. Do Asian American college students without suicide risk have higher CSRLI scores than those with suicide risk?
3. Does the CSRLI show convergent validity with other variables associated with suicide risk, such as depression and hopelessness?
4. Does the CRSLI predict suicidal behavior above and beyond the measures of depression and hopelessness?
5. What are some additional reasons for living that Asian American college students may hold?
CHAPTER III

METHODOLOGY

This chapter outlines the method that was utilized to examine the current research
questions regarding the cultural validity of the CSRLI with Asian American college
students. Specifically, the research design, participants, data collection procedures, and
measurement instruments are reviewed. In addition, the research hypotheses and
statistical analyses used to test the research hypotheses are described.

Research Design

The research design used in this study was a non-experimental survey with
convenience sampling. In determining sample size in factor analysis, Hatcher (1994)
recommended the larger of 100 subjects or 5 times the number of variables being
analyzed. Thus, a sample size of 230 for the 46-item CSRLI was deemed adequate for
this investigation, and a total of 314 participants completed the survey.

In order to obtain psychometric data and test hypotheses, five measurement
instruments, one open-ended question regarding additional reasons for living, and a brief
background questionnaire were utilized: the College Student Reasons for Living
Inventory (CSRLI; Westefeld et al., 1992), the Center for Epidemiologic Studies-
Depression Scale (CES-D; Radloff, 1977), the Beck Hopelessness Scale (BHS; Beck et
al., 1974), the Suicide Behavior Questionnaire-Revised (SBQ-R; Osman et al., 2001), the
Asian Value Scale-Revised (AVS-R; Kim & Hong, 2004), and a brief background
questionnaire (e.g., sex, age, year in school, state of residence, and ethnic heritage). To explore additional reasons for living that may be relevant to Asian American college students, participants were asked to provide reasons for living immediately following the completion of the CSRLI.

Participants and Procedure

Participants in this study were Asian American college students at the undergraduate or graduate levels and were recruited through a convenience sampling procedure. The sample included 314 participants with a mean age of 21.6. Of the 314 participants, 217 were undergraduates and 97 were graduate or professional level students.

Participants were sought from various campus student organizations with large Asian American memberships and community organizations in several regions of the US (i.e., Midwest, East coast, West coast). Eligibility to participate in this study included the respondent’s self-identification as an Asian American or a member of any Asian American subgroup. To reach participants broadly and to maximize the generalizability of the results, the members from the Asian American Psychological Association (AAPA) were consulted through the AAPA Listerv. They suggested using an online survey format and contacting various college student organizations. As a result, several community organizations and individuals who had reasonable access to Asian American students were identified. Upon compiling a list of individuals and Asian American student organizations from universities with a large number of Asian American students, emails were sent to their officers to generate interest and inform them of the purpose of the study. Assistance was enlisted by inviting them to forward the email with the online
survey link to eligible Asian American students or their members or to provide the online survey link in their communications with their members. Complete descriptions of participants are provided in Chapter IV.

Data collection for this investigation was through an online survey hosted by PsychData.com. The email to the identified contacts and individuals contained a brief description and an invitation to participate by clicking the link to the website. The first page of the web site contained an Informed Consent Form, describing the participation procedure and help-seeking information (see Appendix A). Should students agree to participate, they were instructed to click on the icon that states “Continue to Next page” to complete the survey. After participants completed the measurement instruments and a brief background questionnaire, they were directed to a page where they could choose to enter their email address to be included in a drawing for one of five $100 gift certificates to Amazon.com. This page was a separate survey unlinked to the study questionnaires; thus, identifying information (i.e., email address) was collected, stored, and accessed separately from their responses. At the conclusion of the survey, the participants were again provided with help-seeking information as noted earlier (see Appendix B). The survey data were encrypted during transmission from the survey to the password protected database.

Prior to data collection, an approval from The University of Akron Institutional Review Board (IRB) was obtained for the proposed research (Appendix C). The Informed Consent Form described the purpose and risks of the study, the assurance of the confidential and anonymous nature of data collection, the right to withdraw from participation at any time without penalty, and the right to contact the researcher and The
University of Akron IRB with questions regarding the study. In addition, the participants were urged to seek immediate mental health assistance in the event that they experienced suicidal thoughts. The National Suicide Prevention Hotline, 1-800-273-8255 (TALK), and instructions for how to access an individual university’s or college’s counseling center through www.ulifeline.org were provided in the Informed Consent Form and in the closing section immediately following the completion of the survey. In addition, the National Suicide Prevention Hotline number was provided on each page of the survey. The completion time for all required measures was estimated to be 15 to 20 minutes and it was indicated in the Informed Consent Form.

Measures

The Background Questionnaire

Participants were asked to provide age, sex, sexual orientation, religious affiliation, state of residence, self-identified ethnic heritage, and current level of school (see Appendix D). In addition, they were asked to rate the extent to which their sense of family obligation and desire to avoid bringing shame to their family influenced their decisions or actions. These two items were designed to reflect the participants’ level of adherence to two cultural values that were deemed potentially relevant to suicide from prior literature (i.e., family obligation and shame).

The Suicide Behaviors Questionnaire-Revised

The Suicide Behaviors Questionnaire-Revised (SBQ-R; Osman et al, 2001; Appendix E) is a four-item self-report instrument designed to assess suicidal behaviors. Modified from the original SBQ (Linehan et al., 1983), the 4-item SBQ-R is one of the most widely used suicide assessment instruments in the suicide literature (Range, 2005).
The four items tap into past suicide ideation and attempt, frequency of suicide ideation, suicide threats, and suicide likelihood. Item 1 (“Have you ever thought about or attempted to kill yourself?”) is rated on a 4 point scale (1 = “never” to 4 = “I have attempted to kill myself and really hoped to die”); Item 2 (“How often have you thought about killing yourself in the past year?”) is rated on a 5 point scale (1 = “never” to 5 = “very often – 5 or more times”); Item 3 (“Have you ever told someone that you were going to commit suicide, or that you might do it?) is rated on 3 point scale (1 = “no” to 3 = “Yes, more than once, and really wanted to do it”); Item 4 is rated on 7 point scale (0 = “never” to 6 = “very likely”).

Concurrent validity of the SBQ-R has been shown with suicidal participants scoring significantly higher on the SBQ-R than nonsuicidal participants across clinical and nonclinical samples (all p’s < .01) (Osman et al., 2001). Evidence for convergent validity has been shown through high correlations obtained between the SBQ-R and the Self-Harm Behavior Questionnaire (r = .77, p < .01; Gutierrez, Osman, Barrios, & Kopper, 2001) and with PANSI-NI (r = .60, p < .01; Muehlenkamp et al., 2005). Reported internal consistencies ranged from .76 to .86 with mostly European American college student participants (Gutierrez et al., 2000; Osman et al., 2001) and from .71 to .86 with a racially and ethnically diverse group of college student participants (Muehlenkamp et al.).

In addition, using receiver operating characteristic (ROC) analyses, Osman et al. (2001) empirically examined cutoff scores in differentiating suicidal individuals from those who are nonsuicidal. ROC, which is similar to discriminant analyses, has been utilized in the assessment literature because it is less affected by the base rate of a
criterion (Osman et al.). In their study, a cutoff score of 7 showed excellent sensitivity (.93) and specificity (.95) with college students. In the current investigation, this cutoff score for the SBQ-R total (i.e., 7 or higher) was used to differentiate between the suicide risk group and the no-risk group. The alpha coefficient in the current sample was .76.

The Beck Hopelessness Scale

The Beck Hopelessness Scale (BHS; Beck et al., 1974; Appendix F) is a 20-item true-false inventory that assesses the degree to which individuals' cognitive schemas are characterized by extreme pessimistic expectations and hopelessness. The BHS has been used widely with clinical and nonclinical participants including college students (e.g., Beck et al., 1989; Cole, 1988; Dixon et al., 1991; Gutierrez et al., 2000; Osman et al., 1999; Schotte & Clum, 1982; Steed, 2001). Respondents are asked to indicate either agreement or disagreement to the items (e.g., “My future seems dark to me”). Scores can range from 0 to 20, with higher scores indicating a greater degree of hopelessness. Nine of the items are reverse coded. The BHS has shown relatively high correlations with clinical ratings of the level of hopelessness (r = .74, p < .001 in general practice patients and r = .62, p < .001 in suicide attempters) (Beck et al., 1974). A 5–10 year longitudinal study has shown that a cutoff score of 9 and higher predicted 90% of eventual suicides among hospitalized suicide ideators (Beck et al., 1989).

A high degree of internal consistency (Kuder-Richardson Formula 20 = .93) has been obtained with a racially diverse group (n = 294; 45% African American, 50% European American, 5% other) of hospitalized patients with a recent history of non-fatal suicidal behavior (Beck et al., 1974). Similarly, the BHS has shown adequate internal consistency among college student participants (e.g., KR-20 = .82, Gutierrez et al., 2000).
and with racially and ethnically diverse groups of college student participants, ranging from .79 to .88 (Muehlenkamp et al., 2005). Additionally, a coefficient alpha of .91 has been reported with Asian American college student participants (Chang, 1998). Cronbach’s alpha for the current sample was .86.

The Center for Epidemiologic Studies – Depression Scale

The Center for Epidemiologic Studies – Depression Scale (CES-D; Radloff, 1977; Appendix G) is a 20 item self-report instrument designed to measure depressive symptoms specifically for research use in the general population. Available in the public domain, it has been widely used in the U.S. and internationally. Drawn from a pool of items of other validated depression scales, the CES-D taps into cognitive, affective, behavioral, and somatic symptoms associated with depression (Radloff). Respondents are asked to indicate the frequency of occurrence of each statement in a 4-point Likert scale (i.e., 0 = “rarely or none of the time, less than 1 day” to 3 = “most of the time, 5-7 days”). Four items (items 4, 8, 12, and 16) are reverse coded. The possible range of scores is zero to 60, with higher scores indicating more symptoms of depression.

Radloff (1977) reported good internal consistency reliability with coefficient alphas ranging from .85 in general population samples to .90 in clinical population samples. In addition, an internal consistency reliability estimate of .88 was reported for Chinese American college student participants (Ying, Lee, Tsai, Yeh, & Huang, 2000), similar to that reported for American Indian college student participants (i.e., .89; Scheel, 1999). As expected for a state measure, test-retest correlations were moderate, ranging between .45 and .70, with shorter intervals generally producing higher correlations than longer intervals (Radloff). In a Chinese American college student sample, one-month
test-retest reliability was .77 (Ying et al.). As reported by Radloff, convergent validity has been demonstrated through significant positive correlations with other self-report scales and clinical ratings of depression (ranging from .49 to .53, \( p’s < .01 \)).

The CES-D scores also varied in expected ways with life events (e.g., loss, separation, vacation) and in response to treatment of depression (Radloff, 1977). Results of factor analyses indicated that the internal structure of the scale was similar across a wide variety of demographic groupings (e.g., sex, levels of education, race) (Radloff).

Concerning the validity of the CES-D with Asian American college students, the results of a confirmatory factor analysis yielded adequate goodness of fit indices with Chinese American college students (chi-square = 163.41, \( df = 98, p = < .0001 \); NNFI = .95, CFI = .96), supporting the factor structure of the CES-D with Chinese American college students (Ying et al., 2000). The alpha coefficient obtained for the current sample for the CES-D was .91.

**The College Student Reasons for Living Inventory**

As detailed previously, the College Student Reasons for Living Inventory (CSRLI; Westefeld et al., 1992; Appendix H) is a 46 item self-report instrument assessing potential reasons for not killing oneself if the thought were to occur. Respondents are asked to indicate the importance of each statement as a reason against suicide on a 6-point Likert type scale (1, “Not at all important” to 6, “Extremely important”). The possible range for both total score (sum of all scores divided by the number of all items) and six subscales scores (sum of subscale item scores divided by the number of subscale items) is 1 to 6, with a higher score representing higher reasons for living.
The CSRLI is comprised of six subscales: Survival and Coping Beliefs, College and Future-Related Concerns, Moral Objections, Responsibility to Friends and Family, the Fear of Suicide, and Fear of Social Disapproval. The 10-item Survival and Coping Beliefs subscale (SCB) reflects self-confidence in problem-solving, enjoyment of life, and self-respect. The 10-item College and Future-Related Concerns subscale (CFRC) reflects desire to graduate, positive outlook on successful career, and being a contributing member of the society. The 6-item Moral Objections subscale (MO) reflects religious, moral, ethical, and familial beliefs against suicide. The 8-item Responsibility to Friends and Family subscale (RFF) reflects a belief that suicide would cause emotional pain for friends and family and a sense of responsibility to them. The 7-item Fear of Suicide subscale (FS) reflects fears about the potential consequences of a failed attempt (e.g., injury or hassle from family and friends) and pain associated with act of suicide. Finally, the 5-item Fear of Social Disapproval subscale (FSD) reflects fears about others’ perceptions in reaction to suicide (e.g., having a lack or character, being a failure) and impact on the college (e.g., causing embarrassment).

As noted earlier, the CSRLI has demonstrated strong psychometric properties including good internal consistency reliabilities across the subscales, with the exception of FSD (Rogers & Hanlon, 1996; Scheel, 1999; Westefeld et al., 1992; Westefeld et al., 1996a, 1996b; Westefeld, Scheel, & Maples, 1998), ranging from .91 to .93 for the total score, from .81 to .93 for SCB, from .85 to .88 for CFRC, from .80 to .86 for MO, from .78 to .89 for RFF, from .71 to .81 for FS, and from .45 to .71 for FSD. Psychometric information related to the use of the CSRLI in the current sample is presented in Chapter IV.
The Asian Value Scale-Revised

The Asian Value Scale-Revised (AVS-R; Kim & Hong, 2004; Appendix I) is a 25 item self-report instrument designed to assess the level of individuals’ adherence to Asian cultural values (i.e., the cultural value dimension of acculturation). Respondents are asked to indicate the degree of agreement with each statement that reflects Asian cultural values on a 4-point Likert type scale (i.e., 1 = Strongly disagree to 4 = Strongly agree). Twelve items are reverse coded. The possible range of scores is 25 to 100, with a higher score indicating higher adherence to Asian cultural values.

The AVS-R is an updated version of the AVS (Kim et al., 1999). Originally, Kim et al. developed the AVS through a review of the literature on Asian cultural values, a nationwide survey of Asian American psychologists, and focus group discussions. The final set of 36 items in the AVS was selected based on significant score differences between first-generation Asian Americans and European Americans (Kim et al.). The AVS has demonstrated adequate internal consistency reliabilities, ranging from .80 to .90 with college students (Kim et al., 1999; Kim et al., 2001; Kim, Ng, & Ahn, 2005; Kim & Omizo, 2003) and high 2-week test-retest reliability (i.e., .83) (Kim et al., 1999). Construct validity of the AVS was obtained through factor analyses (Kim et al., 1999; Kim et al., 2001), which supported a hierarchical structure with a second order unidimensional general Asian values factor and six first order factors (i.e., collectivism, conformity to norms, emotional self-control, family recognition through achievement, filial piety, and humility). Discriminant validity was also evidenced by the low correlation between the AVS scores, which reflect a values dimension of acculturation, and the Suinn-Lew Asian Self-Identity Acculturation Scale scores (SL-ASIA; Suinn,
Richard-Figueroa, Lew, & Vigil, 1987), which reflect primarily a behavioral dimension of acculturation.

Although the original 36 item AVS had evidenced adequate validity as an Asian cultural value acculturation scale, Kim and Hong (2004) revised the original AVS by examining characteristics of items. Particularly, they argued that some items might not fully represent the entire range of the construct. For example, the item, “One should be discouraged from talking about one’s accomplishments,” would be more difficult to endorse than the item, “One should be humble and modest.” Thus, using Rasch’s (1960) model, Kim and Hong (2004) revised the AVS by eliminating 11 misfit items for their lack of construct homogeneity or redundancy. Despite having fewer items, the AVS-R demonstrated adequate reliability (i.e., .80), comparable to the original AVS (i.e., coefficient alphas of .81 and .82) and highly correlated with AVS (r = .93, p < .001), as expected (Kim & Hong). The alpha coefficient was .82 in the present sample.

Research Questions and Statistical Analysis

For the each of the research questions, specific hypotheses and statistical analyses are explicated below. The preliminary analyses included examining descriptive data regarding demographics, suicidal behavior, self-reported experiences of depression, and hopelessness. Descriptive analyses provided information pertinent to interpretation of the results of this study.

Specific hypotheses and statistical analyses include:

1. Six factor scales for the CSRLI as identified in previous research are supported in the current sample. Data were analyzed using EFA. As recommended by Kahn (2006), EFA in this investigation utilized a
principal-axis factoring (PAF) using squared multiple correlations as priors. The number of factors to retain was determined using multiple criteria as recommended by Tinsley and Tinsley (1987) and others (e.g., Kahn, 2006). The final factor solution was be rotated using a promax rotation. Kahn suggested that promax is a better choice because if the factors are uncorrelated the rotations will remain orthogonal, but the rotations will be oblique should the factors be correlated.

2. Asian American students without suicide risk score significantly higher \((p < .05)\) than those with suicide risk on the CSRLI subscales. Data were analyzed using MANOVA, followed by univariate ANOVAs for all dependent variables when a statistically significant multivariate effect \((p < .05)\) is observed.

3. Scores on reasons for living (CSRLI subscales) are significantly \((p < .05)\) negatively related to scores on depression (CES-D) and hopelessness (BHS). Data were analyzed using Pearson product-moment correlation between the CSRLI total and subscale scores and the CES-D scores and the BHS scores.

4. Scores on reasons for living (CSRLI subscales) account for a significant \((p < .05)\) amount of variance in suicidal behavior (the SBQ-R total score) above and beyond the variance accounted for by depression (CES-D) and hopelessness (BHS). Data were analyzed using hierarchical multiple regression.
In addition, relations among acculturation (AVS-R), the CSRLI subscales, suicidal risk (SBQ-R), depression (CES-D), hopelessness (BHS) and exploratory items on cultural adherence (i.e., family obligation and desire to avoid bringing shame), the CSRLI subscales, and suicidal behavior were investigated. Finally, additional reasons for living elicited from the participants were examined for themes not reflected on the CSRLI.
CHAPTER IV
RESULTS

This chapter presents the results of the study. First, descriptive statistics concerning demographics and the research variables are presented. Second, the results of the statistical analyses examining the study hypotheses, including the factor analyses of the College Student Reasons for Living, are detailed. Third, exploratory analyses focused on relationships among acculturation (AVS-R), the investigator-devised items reflecting family obligation and desire to avoid bringing shame to family, and other research variables are provided. Finally, participants’ responses identifying additional reasons for living are presented.

A total of 335 individuals visited the online survey, and 314 participants completed the survey. Pre-analysis screening indicated that some of the items had missing values, ranging from 1 to 14 per variable. Because the missing data accounted for less than 5% of cases and appeared to be random, they were replaced with the mean of the item for the sample prior to conducting inferential analyses.

Descriptive Statistics

Demographic Information

Demographic characteristics of the participants are shown in Table 1. The survey participants included 115 men (38%) and 189 women (62%) with 10 respondents not indicating their biological sex. The majority of participants (85%) were between the ages
Table 1
Demographic Characteristics \( (N = 314) \)

<table>
<thead>
<tr>
<th>Variable</th>
<th>( n )</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>115</td>
<td>38%</td>
</tr>
<tr>
<td>Women</td>
<td>189</td>
<td>62%</td>
</tr>
<tr>
<td>Not reported</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Current Academic Standing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st Year</td>
<td>52</td>
<td>17%</td>
</tr>
<tr>
<td>2nd Year</td>
<td>60</td>
<td>20%</td>
</tr>
<tr>
<td>3rd Year</td>
<td>46</td>
<td>15%</td>
</tr>
<tr>
<td>4th Year</td>
<td>59</td>
<td>20%</td>
</tr>
<tr>
<td>Graduate/Professional School</td>
<td>86</td>
<td>28%</td>
</tr>
<tr>
<td>Not reported</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Religious Affiliation*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>113</td>
<td>38%</td>
</tr>
<tr>
<td>Buddhism</td>
<td>23</td>
<td>8%</td>
</tr>
<tr>
<td>Catholic</td>
<td>40</td>
<td>13%</td>
</tr>
<tr>
<td>Hinduism</td>
<td>20</td>
<td>7%</td>
</tr>
<tr>
<td>Protestant</td>
<td>97</td>
<td>32%</td>
</tr>
<tr>
<td>Muslim</td>
<td>4</td>
<td>1%</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>1%</td>
</tr>
<tr>
<td>Not reported</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Ethnic Background **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian Indian</td>
<td>25</td>
<td>8%</td>
</tr>
<tr>
<td>Bangladeshi</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>Cambodian</td>
<td>3</td>
<td>1%</td>
</tr>
<tr>
<td>Chinese</td>
<td>123</td>
<td>40%</td>
</tr>
<tr>
<td>Filipino</td>
<td>15</td>
<td>5%</td>
</tr>
<tr>
<td>Hawaiian</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>Japanese</td>
<td>13</td>
<td>4%</td>
</tr>
<tr>
<td>Korean</td>
<td>86</td>
<td>27%</td>
</tr>
<tr>
<td>Laotian</td>
<td>5</td>
<td>2%</td>
</tr>
<tr>
<td>Malaysian</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>Pakistani</td>
<td>5</td>
<td>2%</td>
</tr>
<tr>
<td>Taiwanese</td>
<td>39</td>
<td>12%</td>
</tr>
<tr>
<td>Thai</td>
<td>3</td>
<td>1%</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>16</td>
<td>5%</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

* Sum of percentages exceeds 100% because of rounding
** Sum of percentages exceeds 100% because of participants’ identifying more than one ethnic background
of 18 and 24 with a mean of 21.6 (SD = 3.4) years. Most of the respondents reported being heterosexual (n = 281, 89%) with the remaining individuals identifying being gay (n =3), bisexual (n=8), and other (n=12). None of the respondents reported being lesbian. All levels of academic standing (i.e., year in school) were represented. Residents from 19 states were included in this sample. More than a half of participants came from the Midwest (n =161, 51%; e.g., Illinois, Ohio, and Michigan), with 19% (n = 58) from the West Coast and 25% (n = 63) from the East Coast. Approximately 36% of respondents (n = 113) reported having no religious affiliation, and 45% self-identified as Protestant (n = 97) or Catholic (n = 40). Comparatively fewer participants reported being affiliated with the traditionally Eastern religious beliefs of Buddhism (8%, n =23) and Hinduism (7%, n = 20). In terms of the ethnic background, the largest number of respondents were Chinese (n =123, 40%), followed by Korean (n = 86, 27%). The sample also included Taiwanese (n = 39, 12%), Asian Indian (n = 25, 8%), Vietnamese (n = 16, 5%), Filipino (n =15, 5%), and Japanese (n = 13, 4%). All other remaining countries each represented 1% or less of the respondents. In addition, ten participants (3%) identified as multiethnic.

Suicidal Behavior

Descriptive statistics for responses to the SBQ-R measuring suicidal behaviors, are detailed in Table 2. Of the 314 respondents, 306 completed the SBQ-R. Using the cut-off score of 7 and above on the SBQ-R total score as indicating suicide risk (Osman et al., 2001), 33% (n = 101) of participants were classified as at risk for suicide, and 67% (n = 205) were classified as indicating no suicide risk. The mean score was 9.30 (SD = 2.38) for the risk group and 4.34 (SD = 1.07) for the no-risk group. Using a chi-square
Table 2
Descriptive Statistics for the SBQ-R

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SBQ-R Total Score</strong></td>
<td>5.98</td>
<td>2.84</td>
<td>306</td>
<td></td>
</tr>
<tr>
<td>Not reported</td>
<td></td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>SBQ-R Groups</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No-Risk Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>4.51</td>
<td>1.10</td>
<td>87</td>
<td>67%</td>
</tr>
<tr>
<td>Women</td>
<td>4.24</td>
<td>1.05</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>Risk Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>9.07</td>
<td>2.19</td>
<td>28</td>
<td>33%</td>
</tr>
<tr>
<td>Women</td>
<td>9.42</td>
<td>2.46</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>Not reported</td>
<td></td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Item 1: Suicide ideation &amp; attempt</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>2.06</td>
<td>0.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brief thought</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attempted</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not reported</td>
<td></td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Item 2: Frequency of suicide thoughts in the past year</strong></td>
<td>1.71</td>
<td>1.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>1.68</td>
<td>1.02</td>
<td>182</td>
<td>60%</td>
</tr>
<tr>
<td>1 time</td>
<td></td>
<td></td>
<td>68</td>
<td>22%</td>
</tr>
<tr>
<td>2 times</td>
<td></td>
<td></td>
<td>31</td>
<td>10%</td>
</tr>
<tr>
<td>3-4 times</td>
<td></td>
<td></td>
<td>14</td>
<td>5%</td>
</tr>
<tr>
<td>5 or more</td>
<td></td>
<td></td>
<td>11</td>
<td>4%</td>
</tr>
<tr>
<td>Not reported</td>
<td></td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Item 3: Past suicide threats</strong></td>
<td>1.30</td>
<td>0.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>233</td>
<td></td>
<td></td>
<td>76%</td>
</tr>
<tr>
<td>At one time</td>
<td>55</td>
<td></td>
<td></td>
<td>18%</td>
</tr>
<tr>
<td>More than once</td>
<td>18</td>
<td></td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>Not reported</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Item 4: Future likelihood</strong></td>
<td>.92</td>
<td>1.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>115</td>
<td></td>
<td></td>
<td>51%</td>
</tr>
<tr>
<td>No chance at all</td>
<td>67</td>
<td></td>
<td></td>
<td>22%</td>
</tr>
<tr>
<td>Rather Unlikely</td>
<td>57</td>
<td></td>
<td></td>
<td>18%</td>
</tr>
<tr>
<td>Unlikely</td>
<td>14</td>
<td></td>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>Likely</td>
<td>9</td>
<td></td>
<td></td>
<td>3%</td>
</tr>
<tr>
<td>Rather Likely</td>
<td>3</td>
<td></td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>Very Likely</td>
<td>1</td>
<td></td>
<td></td>
<td>.3%</td>
</tr>
<tr>
<td>Not reported</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Sum of percentages may exceed 100% because of rounding.

SBQ-R = The Suicide Behaviors Questionnaire-Revised, Osman et al., 2001
analysis, no significance sex difference was found on SBQ-R scores, $\chi^2(14, N = 304) = 17.07, p = .25$.

For the life time experiences of suicidal behavior, almost half of all who responded (49%, $n = 151$) endorsed having had at least a brief thought of suicide at some point in their lives, 21% ($n = 64$) endorsed having had a suicide plan, and 5% ($n = 15$) endorsed having engaged at least one non-fatal suicidal behavior previously, whereas 25% ($n = 76$) reported never having had such experiences. For suicidal behavior during the past year, 59.5% ($n = 182$) reported not having experienced suicidal ideation while 40.5% ($n = 124$) of all participants reported having thought of suicide at least once in the past year. Of those who engaged in suicidal behavior, 24% ($n = 73$) reported that they had disclosed their threats to others at least once. Although almost all (96%) of the respondents reported that there was no chance or likelihood of attempting suicide in the future, 4% ($n = 13$) endorsed varying degrees of likelihood in the future. The individuals who indicated future likelihood of suicide in this investigation raise an ethical concern because there was no means to proved direct assistance to them given the anonymity of the data collection process. Further discussion of this issue follows in the Chapter V.

*Descriptive Statistics for the Primary Research Variables*

Descriptive statistics for the research variables for the sample by sex are reported in Table 3. Based on t-tests, no statistically significant ($p \leq .05$) sex differences were found on any of the variables. The full correlation matrix for the all the research variables is presented in Appendix J.
Table 3
Means, Standard Deviation, Minimum, Maximum, and $p$ Values for Research Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicidal Behavior</td>
<td>5.98</td>
<td>2.80</td>
<td>3</td>
<td>16</td>
<td>.077</td>
</tr>
<tr>
<td>Men</td>
<td>5.62</td>
<td>2.43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>6.21</td>
<td>3.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>16.58</td>
<td>10.37</td>
<td>0</td>
<td>53</td>
<td>.110</td>
</tr>
<tr>
<td>Men</td>
<td>15.23</td>
<td>9.35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>17.20</td>
<td>10.99</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hopelessness</td>
<td>4.37</td>
<td>4.20</td>
<td>0</td>
<td>20</td>
<td>.796</td>
</tr>
<tr>
<td>Men</td>
<td>4.38</td>
<td>3.95</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>4.25</td>
<td>4.35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acculturation</td>
<td>60.72</td>
<td>7.85</td>
<td>35</td>
<td>92</td>
<td>.274</td>
</tr>
<tr>
<td>Men</td>
<td>61.34</td>
<td>6.71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>60.31</td>
<td>8.66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Obligation</td>
<td>3.04</td>
<td>.79</td>
<td>1</td>
<td>4</td>
<td>.178</td>
</tr>
<tr>
<td>Men</td>
<td>2.96</td>
<td>.84</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>3.09</td>
<td>.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoiding Shame</td>
<td>2.68</td>
<td>.94</td>
<td>1</td>
<td>4</td>
<td>.123</td>
</tr>
<tr>
<td>Men</td>
<td>2.57</td>
<td>.98</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>2.75</td>
<td>.94</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. $N = 304$; for men, $n = 115$; for women $n = 189$. Suicidal Behavior = SBQ-R (Osman et al.); Depression = CES-D (Radloff, 1977); Hopelessness = BHS (Beck et al., 1974); Acculturation = AVS-R (Kim & Hong, 2004).

Test of the Hypotheses

**Hypothesis 1**

Hypothesis 1 suggested that six factors scales for the CSRLI as identified in previous research would be found in this sample. Responses to the 46-item CSRLI were subjected to an exploratory factor analysis, using squared multiple correlations as prior communality estimates. The principal-axis factoring method was used to extract the factors, and this was followed by a promax rotation. The results of the factor analyses supported a 5-factor solution as the most simple factor structure in this sample. In Table 4, the initial eigenvalues and the percentages of variance for 6 factors and the eigenvalues
for the 5-factor solution, percentages of variance, and cumulative variance are presented. In addition, the factor correlation matrix for the five factors is presented in Table 5.

In determining the number of factors to retain, multiple criteria were considered as suggested by Hatcher (1994), Kahn (2006), and Tinsley and Tinsley (1987). These included (a) Kaiser’s criterion (i.e., retaining factors with eigenvalue of 1.0 or more), (b) Cattell’s scree test, (c) the proportion of variance accounted for by the last factor (“large enough to be deemed important” – Kahn, p. 690), and (d) the total variance accounted for the factor solution (at least 40% and above, Tinsley & Tinsley). Based on these criteria, 6 factors were initially retained. In order to attain the most parsimonious and interpretable factor solution, three separate factor analyses with a promax rotation, specifying four, five, and six factors, were performed and the results were compared.

Table 4
Eigenvectors and Variance Explained by the Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Initial Eigenvalues</th>
<th>Percentage* of Variance</th>
<th>Eigenvalues after a rotation</th>
<th>Percentage** of Variance</th>
<th>Cumulative** percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>14.04</td>
<td>30.52</td>
<td>10.92</td>
<td>29.54</td>
<td>29.54</td>
</tr>
<tr>
<td>2</td>
<td>3.81</td>
<td>8.27</td>
<td>11.04</td>
<td>7.17</td>
<td>36.71</td>
</tr>
<tr>
<td>3</td>
<td>2.91</td>
<td>6.33</td>
<td>8.74</td>
<td>5.53</td>
<td>42.24</td>
</tr>
<tr>
<td>4</td>
<td>2.73</td>
<td>5.96</td>
<td>5.65</td>
<td>4.94</td>
<td>47.18</td>
</tr>
<tr>
<td>5</td>
<td>1.86</td>
<td>4.04</td>
<td>3.53</td>
<td>3.07</td>
<td>50.25</td>
</tr>
<tr>
<td>6</td>
<td>1.60</td>
<td>3.49</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* indicates initial percentage of variance
** indicates variance after principal axis factoring

Comparing these three factor solutions resulted in the following decisions. The 4-factor solution was abandoned because many of the items (i.e., 21 items) loaded on the first factor, resulting in an uninterpretable global factor. The 6-factor solution was rejected because only three items defined Factor 6 and the reliability for this Factor was low (α = .50). On the other hand, in the 5-factor solution, variance was spread more...
equitably across the factors than the 4-factor solution, and each factor was represented by at least 5 items. The resulting 5 factors reflected distinct, interpretable constructs, mirroring the first five of factors of Westefeld et al. (1992) six factor model. The 5-factor solution accounted for 50.25% of total variance with the last factor (Factor 5) explaining 3.07% of variance after extraction. Although, the variance accounted for by Factor 5 was not substantive by comparison, all 5 items in Factor 5 were conceptually and theoretically consistent with the Westefeld et al.’s Factor 5. In addition, all items on Factor 5 uniformly showed high factor loadings, and the obtained alpha was adequate ($\alpha = .78$).

Table 5
Factor Correlation Matrix for the Five Factors

<table>
<thead>
<tr>
<th>Factors</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Survival and Coping Beliefs</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 College and Future Related Concerns</td>
<td>.68</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Responsibility to Friends and Family</td>
<td>.50</td>
<td>.55</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Moral Objections</td>
<td>.36</td>
<td>.37</td>
<td>.34</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>5 Fear of Suicide</td>
<td>.06</td>
<td>.22</td>
<td>.21</td>
<td>.16</td>
<td>-</td>
</tr>
</tbody>
</table>

In interpreting the rotated factor pattern, an item was said to load on a given factor if the factor loading was .40 or greater for that factor and was less than .40 for the other factors (Hatcher, 1994). Using these criteria, 8 items did not load on any factor. The failed items (see Appendix K) included items 5, 26, 37 and all 5 items from Factor 6 (Fear of Social Disapproval; i.e., items 1, 3, 7, 35, 36) in the original CSRLI. Although the current analysis resulted in one fewer factor, all but one surviving item uniformly loaded on the corresponding five factors from Westefeld et al. (1992), maintaining the conceptual integrity of the remaining five factors. For example, the items of Factors 1 and 2 exactly overlapped with the items of Westefeld et al.’s first and second factors. Furthermore, one displaced item (i.e., item 15; I wouldn’t kill myself because of the...
values my parents taught me) moved from Factor 4 (Moral Objections) to Factor 3 (Responsibility to Family and Friends), where it seems to fit as well.

Estimates of internal consistency reliability, along with means and standard deviations, for the five factors in the current sample are presented in Table 6. As indicated, moderate to high internal consistency reliability estimates were obtained, ranging from .78 to .92, for the CSRLI subscales and .93 for the 38 item total score.

Table 6
Means, Standard Deviations, and Internal Consistency Reliabilities for the CSRLI Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>M</th>
<th>SD</th>
<th>Coefficient Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1: Survival and Coping Beliefs</td>
<td>4.53</td>
<td>1.03</td>
<td>.92</td>
</tr>
<tr>
<td>Factor 2: College and Future Related Concerns</td>
<td>4.28</td>
<td>1.12</td>
<td>.91</td>
</tr>
<tr>
<td>Factor 3: Responsibility to Friends and Family</td>
<td>4.70</td>
<td>1.04</td>
<td>.88</td>
</tr>
<tr>
<td>Factor 4: Moral Objections</td>
<td>3.52</td>
<td>1.49</td>
<td>.87</td>
</tr>
<tr>
<td>Factor 5: Fear of Suicide</td>
<td>3.26</td>
<td>1.18</td>
<td>.78</td>
</tr>
</tbody>
</table>

Thus, the results of the factor analyses partially supported the hypothesis that a six factor structure for the CSRLI would be found with Asian American college students.

Because the emergence of five-factors for the CSRLI in this sample and their correspondence with ones identified by Westefeld et al. (1992), subsequent analyses were conducted using the five factors. Furthermore, because the content of the five factors from this sample was almost identical to that from Westefeld et al., interpretation and names of the factors remain unchanged. Table 7 presents the 38 CSRLI items and factor loadings by factor. In addition, the complete factor loading matrix is provided in Appendix L.

Hypothesis 2

The second hypothesis stated that Asian American students with no suicide risk would score significantly higher than those with suicide risk on the CSRLI subscale
Table 7
Factors, Items, and Factor Loading of the CSRLI items after a Promax Rotation

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1: Survival and Coping Beliefs (10 items)</strong></td>
<td></td>
</tr>
<tr>
<td>42. I am happy</td>
<td>.88</td>
</tr>
<tr>
<td>20. I have confidence in my ability to deal with problems</td>
<td>.87</td>
</tr>
<tr>
<td>29. I believe I can cope with my problems</td>
<td>.85</td>
</tr>
<tr>
<td>41. I enjoy life</td>
<td>.80</td>
</tr>
<tr>
<td>25. I’m too stable to kill myself</td>
<td>.71</td>
</tr>
<tr>
<td>44. I have a lot of positive things going for me</td>
<td>.71</td>
</tr>
<tr>
<td>6. I love and respect myself</td>
<td>.63</td>
</tr>
<tr>
<td>30. I just don’t think that things would be ever get bad enough to kill myself</td>
<td>.61</td>
</tr>
<tr>
<td>4. I believe I have control over my life</td>
<td>.49</td>
</tr>
<tr>
<td>23. I am looking forward to the future</td>
<td>.48</td>
</tr>
<tr>
<td><strong>Factor 2: College and Future Related Concerns (10 items)</strong></td>
<td></td>
</tr>
<tr>
<td>40. I want to graduate from college</td>
<td>.92</td>
</tr>
<tr>
<td>45. College will enhance my future</td>
<td>.88</td>
</tr>
<tr>
<td>28. I want to put my college degree to good use</td>
<td>.85</td>
</tr>
<tr>
<td>46. I want to succeed</td>
<td>.68</td>
</tr>
<tr>
<td>17. I want to see how people and the world will change in the future</td>
<td>.66</td>
</tr>
<tr>
<td>2. I have my career to look forward to</td>
<td>.60</td>
</tr>
<tr>
<td>33. I want to live to see what potential I have</td>
<td>.55</td>
</tr>
<tr>
<td>10. I want to have children</td>
<td>.48</td>
</tr>
<tr>
<td>21. I have worked too hard to throw it all away now</td>
<td>.43</td>
</tr>
<tr>
<td>13. I want to contribute to society</td>
<td>.42</td>
</tr>
<tr>
<td><strong>Factor 3: Responsibility to Friends and Family (8 items)</strong></td>
<td></td>
</tr>
<tr>
<td>38. It would cause a lot of guilt and pain for my family</td>
<td>.96</td>
</tr>
<tr>
<td>22. I would not want to disappoint my family</td>
<td>.88</td>
</tr>
<tr>
<td>27. I would cause a lot of guilt and pain for my friends</td>
<td>.77</td>
</tr>
<tr>
<td>18. I have a responsibility and commitment to my family</td>
<td>.73</td>
</tr>
<tr>
<td>8. My family might believe that I didn’t love them</td>
<td>.63</td>
</tr>
<tr>
<td>14. Others depend on me (family, children) and need me</td>
<td>.62</td>
</tr>
<tr>
<td>32. I would miss my family</td>
<td>.46</td>
</tr>
<tr>
<td>15. I wouldn’t kill myself because of the values my parents taught me*</td>
<td>.45</td>
</tr>
<tr>
<td><strong>Factor 4: Moral Objections (5 items)</strong></td>
<td></td>
</tr>
<tr>
<td>9. It is against my religious beliefs to commit suicide</td>
<td>.96</td>
</tr>
<tr>
<td>12. I believe that only God has the right to end life</td>
<td>.91</td>
</tr>
<tr>
<td>24. I consider it morally wrong</td>
<td>.72</td>
</tr>
<tr>
<td>34. Killing myself would be murder</td>
<td>.69</td>
</tr>
<tr>
<td>16. I’m here for a purpose</td>
<td>.43</td>
</tr>
</tbody>
</table>
Table 7 (cont.)

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 5: Fear of Suicide (5 items)</td>
<td></td>
</tr>
<tr>
<td>39. I’m scared of the pain that I would experience</td>
<td>.73</td>
</tr>
<tr>
<td>19. I’m a coward and would not have the guts to do it</td>
<td>.70</td>
</tr>
<tr>
<td>43. I’d be afraid of trying it and failing</td>
<td>.64</td>
</tr>
<tr>
<td>31. I could not decide where, when, or how to do it</td>
<td>.52</td>
</tr>
<tr>
<td>11. I’d be afraid that if I failed I’d be left with serious injury</td>
<td>.45</td>
</tr>
</tbody>
</table>

* Item that moved from Factor 4 from Factor 3

scores. As noted earlier, respondents were placed into the risk group and no-risk group using a SBQ-R total score of 7 as a cut-off. Prior to running the analyses, 5 cases were identified as multivariate outliers based on the Mahalanobis distance score ($\chi^2 > 20.52$). Consequently, two MANOVAs, one with the outliers and the other without, were conducted to determine the effects of these outliers. Because the results of the MANOVAs did not change with the inclusion of the outliers and there was no clear rationale for their exclusion, the results of the MANOVA with the complete data set are reported next.

The multivariate test of differences between participants with and without suicide risk on the CSRLI subscale scores was significant, Wilks’ lambda = .759, $F(5, 308) = 19.591, p < .001, \eta^2 = .24$, indicating that scores on the reasons for living subscales differed as a function of group membership. As indicated in Table 8, follow-up univariate ANOVAs demonstrated that the no-risk group scored significantly higher on four of the five subscales as hypothesized: Survival and Coping Beliefs, College and Future Related Concerns, Responsibility to Friends and Family, and Moral Objections. For example, the mean score on Survival and Coping Beliefs was 4.87 ($SD = .82$) for the no-risk group versus 3.83 ($SD = 1.09$) for the risk group. Large effect sizes, as measured...
by Cohen’s \( d \), were observed for the Survival and Coping Beliefs Subscale \( (d = 1.07) \) and the College and Future Related Concerns Subscale \( (d = .71) \) whereas effect sizes for Responsibility to Friends and Family \( (d = 0.42) \) and Moral Objections \( (d = .46) \) were more modest. On the other hand, there was no significant difference between the groups on the Fear of Suicide Subscale.

Table 8
Between Group Differences on the CSRLI Subscales: Summary of Univariate Analyses of Variance:

<table>
<thead>
<tr>
<th>Factors</th>
<th>( M )</th>
<th>( SD )</th>
<th>df</th>
<th>( F )</th>
<th>Cohen’s ( d )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survival and Coping Beliefs</td>
<td>1,312</td>
<td>88.05***</td>
<td>1.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No-Risk Group</td>
<td>4.87</td>
<td>.82</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk Group</td>
<td>3.83</td>
<td>1.09</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College and Future Related Concerns</td>
<td>1,312</td>
<td>36.46***</td>
<td>0.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No-Risk Group</td>
<td>4.53</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk Group</td>
<td>3.75</td>
<td>1.19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsibility to Friends and Family</td>
<td>1,312</td>
<td>12.50***</td>
<td>0.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No-Risk Group</td>
<td>4.84</td>
<td>.96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk Group</td>
<td>4.40</td>
<td>1.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moral Objections</td>
<td>1,312</td>
<td>15.37***</td>
<td>0.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No-Risk Group</td>
<td>3.74</td>
<td>1.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk Group</td>
<td>3.05</td>
<td>1.37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear of Suicide</td>
<td>1,312</td>
<td>2.02</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No-Risk Group</td>
<td>3.19</td>
<td>1.22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk Group</td>
<td>3.40</td>
<td>1.08</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\( Note. \) \( n \)’s for No-Risk Group and Risk Group are 213 and 101, respectively.  
\( ***p < .001. \)

In order to further examine the relationship between the Fear of Suicide Subscale and suicidal behaviors, the participants in this study were divided into four groups using responses to the SBQ-R item 1: those reporting no suicidal history, a brief suicidal ideation, previous suicide plans, and a history of non-fatal suicidal behaviors. The results
of an ANOVA indicated no significant differences for these groups on scores on the Fear of Suicide Subscale.

**Hypothesis 3**

The third hypothesis stated that scores on the reasons for living subscales would be significantly negatively related to scores on depression, as measured by the CES-D, and hopelessness, as measured by the BHS. Pearson product-moment correlations between these variables are reported in Table 9.

As hypothesized, the CSRLI subscales, except Fear of Suicide, were significantly and negatively associated with depression and hopelessness. Overall, the magnitude of the correlation coefficients was slightly greater with hopelessness than with depression for all four subscales that showed significant relationships. Survival and Coping Beliefs demonstrated the strongest inverse relationship with depression ($r = -.54$, $p < .001$) and hopelessness ($r = -.60$, $p < .001$).

<p>| Table 9 |
| Correlations between the CSRLI Subscales and Depression and Hopelessness |</p>
<table>
<thead>
<tr>
<th>Subscales</th>
<th>Depression</th>
<th>Hopelessness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survival and Coping Beliefs</td>
<td>-.54**</td>
<td>-.60**</td>
</tr>
<tr>
<td>College and Future Related Concerns</td>
<td>-.25**</td>
<td>-.39**</td>
</tr>
<tr>
<td>Responsibility to Friends and Family</td>
<td>-.17**</td>
<td>-.21**</td>
</tr>
<tr>
<td>Moral Objections</td>
<td>-.15*</td>
<td>-.22**</td>
</tr>
<tr>
<td>Fear of Suicide</td>
<td>.09</td>
<td>.07</td>
</tr>
</tbody>
</table>

*Note. N = 314. Depression is based on CES-D scores; Hopelessness is based on BHS scores. *$p < .01$, **$p < .001$*

**Hypothesis Four**

The fourth hypothesis stated that scores on the reasons for living subscales would account for a significant amount of variance in suicidal behavior, as measured by the SBQ-R total score, above and beyond the variance accounted for by the depression (the
CES-D) and hopelessness (the BHS). The correlation matrix for these variables is presented in Table 10. Prior to statistical analysis, 3 cases were determined as outliers based on the Mahalanobis distance score ($\chi^2 > 24.32$) and separate analyses, one with outliers and the other without, were conducted to examine the effects of these outliers. The results of the regression analyses remained unchanged despite the inclusion of the outliers. Thus, the following results of the analysis are with the complete data set.

Table 10
Correlations among the CSRLI Subscales, Suicidal Behavior, Depression, and Hopelessness

<table>
<thead>
<tr>
<th>Variables</th>
<th>SBQ-R</th>
<th>SCB</th>
<th>CFRC</th>
<th>RFF</th>
<th>MO</th>
<th>FS</th>
<th>CES-D</th>
<th>BHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBQ-R</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCB</td>
<td>-.53**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CFRC</td>
<td>-.31**</td>
<td>.67**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RFF</td>
<td>-.19**</td>
<td>.49**</td>
<td>.51**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MO</td>
<td>-.25**</td>
<td>.36**</td>
<td>.35**</td>
<td>.35**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>.06</td>
<td>.09</td>
<td>.22**</td>
<td>.23**</td>
<td>.20**</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CES-D</td>
<td>.51**</td>
<td>-.54**</td>
<td>-.25**</td>
<td>-.17**</td>
<td>-.15**</td>
<td>.09</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>BHS</td>
<td>.44**</td>
<td>-.60**</td>
<td>-.39**</td>
<td>-.21**</td>
<td>-.22**</td>
<td>.07</td>
<td>.60**</td>
<td>-</td>
</tr>
</tbody>
</table>

Note. $N = 314$. SBQ-R = Suicidal Behavior Questionnaire-Revised; SCB = Survival and Coping Beliefs; CFRC = College and Future Related Concerns; RFF = Responsibility to Friends and Family; MO = Moral Objections; FS = Fear of Suicide; CES-D = Depression; BHS = Hopelessness.

**$P < .01.$

To examine if the CSRLI subscales accounted for variance in suicidal behavior over and above that accounted for by risk factors alone as measured by the CES-D and the BHS, a hierarchical multiple regression analysis was performed. Results of this analysis are presented in Table 11.

In performing the hierarchical regression, the scores on depression and hopelessness were entered as the initial step in the equation and the CSRLI subscales were added in the second step. Results for the overall model were significant, $F (7, 306) = 25.143, p < .001, R^2 = .37, \text{Adjusted } R^2 = .35$. The first step in the equation that
included depression and hopelessness accounted for approximately 29% of variance in suicidal behavior, $F (2, 311) = 62.36, p < .0001$. More important, the inclusion of the CSRLI subscales in the second step in the equation contributed an additional 8% of variance, $F (5, 306) = 7.60, p < .0001$, above and beyond the variance accounted for by depression and hopelessness, supporting the hypothesis. Among the subscales, only Survival and Coping Beliefs and Moral Objections were statistically significant in explaining suicidal behavior ($\beta = -.36, p < .001$ and $\beta = -.11, p < .05$, respectively).

Table 11
Summary of Hierarchical Regression Analyses for Variables Predicting Suicidal Behavior ($N = 314$)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>B</th>
<th>SE B</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>.29</td>
<td>.29</td>
<td>.10</td>
<td>.02</td>
<td>.37***</td>
</tr>
<tr>
<td>Hopelessness</td>
<td></td>
<td></td>
<td>.15</td>
<td>.04</td>
<td>.22***</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCB</td>
<td>.37</td>
<td>.08</td>
<td>-.97</td>
<td>.22</td>
<td>-.36***</td>
</tr>
<tr>
<td>CFRC</td>
<td></td>
<td></td>
<td>.05</td>
<td>.17</td>
<td>.02</td>
</tr>
<tr>
<td>RFF</td>
<td></td>
<td></td>
<td>.15</td>
<td>.15</td>
<td>.06</td>
</tr>
<tr>
<td>MO</td>
<td></td>
<td></td>
<td>-.20</td>
<td>.10</td>
<td>-.11*</td>
</tr>
<tr>
<td>FS</td>
<td></td>
<td></td>
<td>.06</td>
<td>1.25</td>
<td>.21</td>
</tr>
</tbody>
</table>

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

Exploratory Analyses

In further exploring the cultural validity of the CSRLI with Asian American college students, to what extent level of acculturation (i.e., the extent to which the individuals adhere to Asian cultural values) would be related to the CSRLI subscale scores and suicidal behavior. In addition, family obligation and desire to avoid bringing shame to family were introduced as potentially important cultural beliefs to be
investigated. The means and standard deviations for these cultural variables are presented in Table 12.

Table 12
Means and Standard Deviations for Cultural Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acculturation</td>
<td>61</td>
<td>7.9</td>
<td>35</td>
<td>92</td>
</tr>
<tr>
<td>Family Obligation</td>
<td>3</td>
<td>.8</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Desire to Avoid Bringing Shame</td>
<td>2.7</td>
<td>.9</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

*Note. N = 314. Acculturation is based on AVS-R (Kim & Hong, 2004). Family Obligation is based on one question regarding the degree to which family obligation affects decisions and actions; Desire to Avoid Bringing Shame = one item regarding the degree to which desire to avoid bringing shame to family affects decisions and actions.*

Acculturation

The correlation matrix for acculturation, the CSRLI subscales, and suicidal behavior is presented in Table 13. Although it was expected that acculturation would be a potentially important variable in examining protective factors with Asian Americans, the results revealed no significant associations between acculturation, as measured by the

Table 13
Correlations among Acculturation, Family Obligation, Desire to Avoid Bringing Shame, the CSRLI Subscales, and Suicidal Behavior

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. AVS-R</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. SBQ-R</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. SCB</td>
<td>-.05</td>
<td>-.53*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. CFRC</td>
<td>.08</td>
<td>-.31*</td>
<td>.70*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. RFF</td>
<td>.14</td>
<td>-.19*</td>
<td>.49*</td>
<td>.51*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. MO</td>
<td>.06</td>
<td>-.25*</td>
<td>.36*</td>
<td>.35*</td>
<td>.35*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. FS</td>
<td>.05</td>
<td>.06</td>
<td>.09</td>
<td>.22*</td>
<td>.23*</td>
<td>.20*</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Obligation</td>
<td>.33*</td>
<td>.01</td>
<td>.08</td>
<td>.12</td>
<td>.37*</td>
<td>.12</td>
<td>.05</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>9. Shame</td>
<td>.46*</td>
<td>.07</td>
<td>.03</td>
<td>.20*</td>
<td>.36*</td>
<td>.17</td>
<td>.13</td>
<td>.65**</td>
<td>-</td>
</tr>
</tbody>
</table>

* Correlation is significant at .001 (0.5/36 Bonferroni correction)
AVS-R, and all five CSRLI subscales or between acculturation and suicidal behavior in this study. On the other hand, acculturation showed significant relationships with the two investigator devised cultural variables of family obligation and desire to avoid bringing shame to family. It appears that the degree to which individuals adhere to Asian cultural values may positively relate to the extent to which family obligation and desire to avoid shame influence individuals’ decisions and actions, but not with suicidality or any of the reasons for living in this population.

Cultural Beliefs around Family Obligation and Desire to Avoid Bringing Shame to Family

Similar to the findings with acculturation, results indicated a lack of statistically significant relations between these cultural beliefs and suicidal behavior. However, the degree to which family obligation influences individuals’ decisions and actions were found to be significantly correlated with Responsibility to Friends and Family, \( r = .37, p < .001 \). In addition, desire to avoid bringing shame to family was significantly related to College and Future Related Concerns \( r = .20, p < .001 \) and Responsibility to Friends and Family \( r = .36, p < .001 \). The results suggest that the extent to which individuals adhere to these core Asian cultural values relate to reasons for living especially around a sense of responsibility toward family and friends.

Additional Reasons for Living

In examining reasons for living with themes not reflected on the CSRLI, participants were asked to provide additional reasons for living. Of the total 314 participants, 11\% \( (n = 35) \) offered additional reasons. The responses were coded and examined for emerging themes (Glesne, 1998) by the investigator. These themes, then,
were compared with those from the CSRLI subscales. All of the responses were found to be conceptually consistent with the five CSRLI subscales, potentially hanging together within each domain. Nonetheless, some of the responses appeared to have qualities that were communal in nature, suggesting influences from a collectivistic worldview. The list of these unique responses is provided in Table 14.

For example, the response, “Be an example of surviving through tough times,” seems to fit well with surviving and coping beliefs, yet highlights interdependent self-construal – sacrificing own suffering for common good. Similarly, the response, “I believe in living life to the fullest by investing in my community and continual education” focuses on the purpose of life as being a member of community. A theme that was not specifically articulated in the CSRLI, but similar to Responsibility to Friends and Family, was responsibility to or longing for romantic partners, which was mentioned by four respondents. Finally, some of the responses seem to reflect beliefs around an after-life, more consistent with the Asian philosophy of reincarnation (e.g., Fear of a possible “underworld” or a reincarnation process that would render the suicide useless), expanding the boundaries of Moral Objections beyond Western religious beliefs.

Table 14
Additional Unique Reasons for Living Identified by Participants

<table>
<thead>
<tr>
<th>Subscale for CSRLI</th>
<th>Number of Responses*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survival and Coping Beliefs</td>
<td>7 responses</td>
</tr>
<tr>
<td>Be an example of surviving through tough times</td>
<td></td>
</tr>
<tr>
<td>College and Future Related Concerns</td>
<td>10 responses</td>
</tr>
<tr>
<td>There is too much to fix</td>
<td></td>
</tr>
<tr>
<td>I believe in living life to the fullest by investing in my community and continual education</td>
<td></td>
</tr>
<tr>
<td>Subscale for CSRLI</td>
<td>Number of Responses*</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Responsibility to Friends and Family</td>
<td>11 responses</td>
</tr>
<tr>
<td>I promised my friends I would not</td>
<td></td>
</tr>
<tr>
<td>I have to live for others</td>
<td></td>
</tr>
<tr>
<td>I’m afraid my family won’t be able to cope with the aftermath of me trying and failing</td>
<td></td>
</tr>
<tr>
<td>It would not solve any problems in my life, but it would instead cause problems for others</td>
<td></td>
</tr>
<tr>
<td>I love my fiancé too much to leave him and cause him pain and emotional suffering</td>
<td></td>
</tr>
<tr>
<td>Fiancé</td>
<td></td>
</tr>
<tr>
<td>Love</td>
<td></td>
</tr>
<tr>
<td>I have never been in a relationship. I want to have my first girlfriend</td>
<td></td>
</tr>
<tr>
<td>Moral Objections</td>
<td>5 responses</td>
</tr>
<tr>
<td>Fear of a possible “underworld” or a reincarnation process that would render the suicide useless</td>
<td></td>
</tr>
<tr>
<td>I’m fortunate to be healthy and alive. It’d be disrespectful to those who aren’t so fortunate</td>
<td></td>
</tr>
<tr>
<td>Fear of Suicide</td>
<td>2 responses</td>
</tr>
</tbody>
</table>

*Note.* * indicates the number of statements from the responses that potentially fit the theme of each subscale
CHAPTER V
DISCUSSION

The purpose of this investigation was to examine the cultural validity of the College Reasons for Living Inventory (Westefeld et al., 1992) with Asian American college students. Overall, the results of this study provide tentative support for the validity of the CSRLI in this sample, at the same time providing much needed empirical data on suicidal behavior and the importance of protective factors in suicide assessment for Asian American college students.

Suicidal Behaviors in Asian American College Students

Consistent with findings from other studies (Chang, 1998; Kisch et al., 2005; Muehlenkamp et al., 2005), Asian American college students in this study appear to experience a great deal of suicidal behavior. For example, the mean score of 5.98 ($SD = 2.84$) in this sample is higher than that reported in another study with European American student participants ($M = 4.82$, $SD = 2.41$, $n = 220$; Muehlenkamp et al.), both measured by the SBQ-R. Furthermore, approximately two fifths of all who responded reported that they had suicidal thoughts at least once during the past year, and one third could be classified as at-risk based on the SBQ-R score, suggesting that suicidal ideation and behavior is a serious concern for Asian American students on college campuses.

Furthermore, no gender differences were found in suicidal behavior. This finding is not surprising in light of the overall less pronounced female-to-male ratio of suicide
rate reported for Asian Americans in general (Shiang et al., 1997) and findings with outpatient Asian American youth (Lau et al., 2002). For example, Lau et al.’s study failed to find gender differences in suicide risk after controlling for other variables such as demographics and clinical diagnosis.

The Cultural Validity of the CSRLI

Factor Structure of the CSRLI

The results of this study did not fully replicate the six factor structure of the CSRLI, as previously identified in Westefeld et al. (1992). Guided by data, the simple factor structure for the CSRLI in this Asian American college student sample was best defined as five factors. Although the results came short of supporting the 6-factor solution in this investigation, they also provided partial support for the factor structure. Specifically, the content of the five factors that emerged for this sample was nearly identical to that of factors one through five from Westefeld et al., suggesting the integrity of these five factors. The five factors were Survival and Coping Beliefs, College and Future Related Concerns, Responsibility to Friends and Family, Moral Objections, and Fear of Suicide.

In spite of fewer factors, the 5-factor solution in this study accounted for a substantial portion of total variance (50.25%), comparable to the variance reported in earlier studies (i.e., 43% to 48%). Furthermore, consistent with other studies, the obtained coefficient alphas were moderate to high for the subscales (i.e., from .78 to .92), suggesting that these five subscales are reliable measures for this sample.

Although it might have been a sample specific result, the results of this investigation, in conjunction with the previous performance of Factor 6 - Fear of Social...
Disapproval (Rogers & Halnon, 1996; Westefeld et al. 1992), indicate that this subscale is indeed in need of further development or needs to be discarded. Beyond being a potentially underdefined factor, there are other plausible explanations as to why Fear of Social Disapproval was not replicated in this sample. One possibility is that the Fear of Social Disapproval Subscale may lack items that meaningfully represent the notion of social disapproval for this population. For example, item 35, “I would embarrass my college/university,” would require individuals to possess a certain degree of commitment and a sense of belonging to their college/university. In this study, the mean score of this item was 1.96 ($SD = 1.30$, Maximum score of 6), indicating this group of participants regarded it as quite unimportant as a barrier against suicide. This result appears to be consistent with research findings that Asian American students tend to perceive themselves not fully integrated into the greater university community as much as their European American counterparts do (Ying et al., 2001).

Another explanation may be that Fear of Social Disapproval, as operationalized in the CSRLI, is not important enough a reason for Asian American students, although it is counterintuitive for this population given the characteristics of the collectivistic culture. In this investigation, the participants were asked to provide additional reasons for living. However, none of the statements identified appeared to reflect the theme of fear of social disapproval per se. The lack of statements that are consistent with Fear of Social Disapproval may further suggest that fear of social disapproval in the CSRLI original form is not a salient reason for Asian American students.

Alternatively, Fear of Social Disapproval may have a different cultural emphasis. For example, unlike the way social disapproval is operationalized in the CSRLI (i.e., fear
of social disapproval directed toward oneself, “Killing myself would show a lack of character”), Asian Americans may fear that their action would bring social disapproval to their family or in-group (i.e., bringing shame to family) (Kim et al., 1999; Oyserman et al., 2002; Sue & Sue, 2003). In this study, the cultural value of avoiding shame was explored to examine the extent to which desire to avoid bringing shame to family influences the participants’ decisions and actions. Although it was not found to be significantly related to suicidal behavior, it was significantly related to acculturation ($r = .46, p < .001$), College and Future Related Concerns ($r = .20, p < .001$), and Responsibility to Friends and Family ($r = .36, p < .001$), suggesting the relevance of avoiding social disapproval directed toward family for Asian American students.

Perhaps, rather than focusing on fear of social disapproval directed to oneself, an Asian American student may focus on fear of bringing social disapproval onto his or her family as reasons for living (i.e., desire to avoid bringing shame to family). Future research should also include items that tap fear of bringing social disapproval (i.e., shame) to one’s family and test whether Fear of Social Disapproval would emerge as the 6th factor.

In regard to the 3 items (items 5, 26, and 37) that did not load on any factors in this sample, items 5 and 26 have previously shown inconsistency in factor loading (Rogers & Hanlon, 1996). For example, in Rogers and Hanlon’s factor analysis with primarily European American participants, items 5 and 26 loaded differently from the originally placement, as identified in the CSRLI. Thus, it is recommended that items 5 and 26 be eliminated from the scale given their inconsistent performance.

*The CSRLI Subscales Score Differences Between Risk and No-Risk Groups*
Within the five factor structure, the results of this investigation suggested that the CSRLI subscales could differentiate between the risk and no-risk groups, supporting their underlying cognitive theoretical grounding. That is, Asian American college students without suicide risk scored significantly higher on the CSRLI subscales with the exception of Fear of Suicide. As indicated by the large effect sizes, participants without suicide risk significantly and substantially differed on their Survival and Coping Beliefs and College and Future Related Concerns scores ($d = 1.07$ and $.71$, respectively) from those with suicide risk, setting them apart in their cognitive schemas toward living. In addition, Responsibility to Friends and Family and Moral Objections ($d = .42$ and $.46$ respectively) were found useful in differentiating between two groups. Moreover, the effect sizes observed in this investigation were similar to those found with an American Indian sample (Scheel, 1999), demonstrating consistency in performance for these four subscales across diverse groups of participants.

Consistent with other research (Scheel, 1999; Westefeld, 1996a), the two groups did not differ on Fear of Suicide scores. Although the lack of a significant finding is consistent with previous studies, it appears at odds with the argument that an increased tolerance to pain (e.g., lower fear for the act of suicide) is one of the tripartite components of suicide (Joiner et al., 2005). Future investigation should fine-tune explorations into how Fear of Suicide may interact with suicidality, including the examination of a curvilinear relationship as Scheel (1999) suggested with a clinical sample.

In sum, the results of this study provided support for the argument that the protective factor conceptualization, as measured by the CSRLI, is a salient component in
understanding the suicidal thoughts and behaviors of Asian American college students. That is, Asian American college students who are not suicidal would more likely rate life-affirming beliefs such as survival and coping beliefs, college and future oriented beliefs, responsibility to their friends and families, and moral objections to suicide higher as reasons to stay alive than would those at suicidal risk.

Convergent Validity of the CSRLI

The results of this investigation also have provided evidence supporting the convergent validity of the CSRLI subscales through demonstrating significant negative relationships with suicidal behavior and other correlates of suicide as expected, lending further support for construct validity of the CSRLI. Specifically, Survival and Coping Beliefs, College and Future Related Concerns, Responsibility to Friends and Family, and Moral Objections were found to be significantly related to suicidal behavior, consistent with findings of other studies (Scheel, 1999; Westefeld et al., 1992; Westefeld et al., 1996a; Westefeld et al., 1996b; Westefeld et al., 1998).

Similar to findings with American Indian student participants (Scheel, 1999), confidence about one’s own ability to deal with problems, as represented in Survival and Coping Beliefs, were found to be most strongly and negatively associated with a sense of hopelessness and depressed mood, which are often seen as the most important risk factors of suicide. In addition, espousing educational goals and being oriented toward the future were moderately negatively related to hopelessness and depressed mood. Similarly, having a sense of responsibility toward family and friends was found to negatively relate to both depression and hopelessness. It could be that individuals who scored high on
Responsibility to Friends and Family may also enjoy a sense of belonging and social connections that act as an antidote against feeling hopelessness and depressed.

Clinical Utility of the CSRLI

In this investigation, the utility of the CSRLI was examined by exploring whether the inclusion of the CSRLI would improve the explanatory power for suicidal behavior above and beyond what is accounted by the risk factors of depression and hopelessness alone. As expected, the inclusion of all five subscales as a whole accounted for an additional 8% of the variance, suggesting the usefulness of the CSRLI as a way to measure protective factors in understanding and assessing suicidality in Asian American students. Among the subscales, Survival and Coping Beliefs again appears to be the important dimension to consider given the magnitude of association with suicidal behavior.

Additional Reasons for Living

In this study, the participants were asked to provide additional reasons for living. Although these statements seem to fit well within the themes of the CSRLI subscales, many also appeared unique and reflective of the Asian worldview, potentially adding new dimensions to the subscales. For example, additional reasons provided by the respondents seemed to resonate with a collectivistic worldview, characterized as interdependent self-construal and an internalized value of social obligation (e.g., “Be an example of surviving through tough times,” “I believe in living life to the fullest by investing in my community,” “I have to live for others” “I’m fortunate to be healthy and alive. It’d be disrespectful to those who aren’t so fortunate.”). The results, indicating the importance of social obligation for Asian Americans, were consistent with the finding
that family obligation was significantly positively related to Responsibility to Friends and Family in this sample.

In addition, statements provided by the respondents also reflected moral objections that are aligned with Eastern religious beliefs, suggesting an opportunity to expand the items beyond Western religious beliefs and to include diverse worldviews into the scale. Furthermore, some cited being in a relationship as a reason for living, consistent with developmental needs around intimacy for college students. Although these statements could be subsumed under the Responsibility to Friends and Family Subscale, none of the original CSRLI items refers specifically to an intimate partner, and inclusion of those items may be important to explore in future investigation.

Future investigations should include some of the statements identified in this study as a way to further develop the CSRLI. The original CSRLI items along with new additional items can then be reexamined to determine the underlying structure. Such processes will contribute to the further development of the scale.

Acculturation

In this study, acculturation was not found to be associated with any of the research variables, such as the CSRLI subscales and suicidal behavior, consistent with the findings with American Indian students (Scheel, 1999). In Scheel’s study, acculturation was not found to be related to the CSRLI subscales or total score among American Indian participants regardless whether they were oriented toward Anglo or tribal cultures. The lack of finding significant correlations between acculturation and the CSRLI subscales lends support for the use of the CSRLI with Asian American students independent of the degree to which individuals adhere to Asian cultural values.
One possible explanation for the nonsignificant finding in this area may be that the AVS-R, as a global measure of acculturation, is not designed to measure dimensions of values as separate domains (i.e., conformity to norms, family recognition through achievement). In support of this speculation, family obligation and desire to avoid bringing shame to family, Asian cultural values measured in this study, were found to be significantly associated with Responsibility to Friends and Family, although these values did not show significant relationships with suicidal behavior per se. In addition, desire to avoid bringing shame to family was also found to be related to College and Future Related Concerns. Perhaps, although level of acculturation may not have a direct relationship with the CSRLI, those values might be relevant aspects of Asian values to consider in relation to the CSRLI. The more the individual’s decision and actions are guided by fulfilling family obligation the higher he or she may consider responsibility to friends and family as an important reason for living. Similarly, a desire to avoid bringing shame to family relates to being more oriented toward the future and the goals of completing a degree and to feeling more responsible to family, which in turn may provide reasons for living for Asian American students.

As previously reviewed, acculturation is considered to be an important variable to examine for Asian American research. For example, acculturation was found to associate with psychological well-being for Asian American youth (Yeh, 2003) and help-seeking behaviors (Kim & Omizo, 2003). Similarly, in this study, acculturation demonstrated small but significant correlations with depression ($r = .19, p = .001$) and hopelessness ($r = .18, p = .001$). Thus, although acculturation was not found to be associated with the CSRLI or suicidal behavior in this investigation, assessing level of acculturation appears
to remain a salient issue in understanding Asian American college students, an important aspect of assessment regardless of suicidality. Furthermore, in working with suicidal Asian American students, Choi et al. (in press) suggested that assessing the level of acculturation of the client and family (e.g., deterrence to parents’ wishes, a sense of responsibility to family, the language spoken at home, and parents’ level of bicultural competency) may provide a valuable insights into how to help student and his or her family. For example, in arranging an outside referral, families who are not familiar with the mental health system would require more detailed guidance.

Although there was no significant finding for acculturation in this study, future investigations should also include an acculturation instrument that has more defined domains of cultural values in order to clarify the relationships between acculturation and the CSRLI, including a moderating effect of acculturation between the CSRLI subscales and suicidal behavior.

Limitations and Recommendations

Although this investigation provided initial empirical data on protective factors for Asian American college students, some limitations of this study also need to be noted. As discussed earlier, Asian Americans represent many subgroups. More than 14 ethnic group memberships endorsed by the participants in this study also reflect this within-group diversity. Thus, the results of this study should be interpreted with caution in terms of generalizability. In order to minimize over-representation by any specific ethnic groups, the recruitment effort for participants in this study was directed only to organizations geared toward all Asian American students, not specific to individual subgroups (e.g., Korean American student organization). Thus, although proportionally
large numbers of Chinese and Korean students were included in this study, the composition of the current sample may reflect the overall student composition of college campuses. However, no official data are available to verify this speculation. Given the considerable differences among subgroups with respect to their sociopolitical backgrounds, future investigation also should examine the cultural validity for each individual ethnic group.

However, despite this diversity, Asian Americans share common cultural characteristics, including cultural values around family structure, how distress is expressed, and have the common experiences of being a visible racial minority (Okazaki, 2000; Sue & Sue, 2003). In that respect, this investigation provides an important first step in understanding the cultural validity of the CSRLI for this diverse cultural group.

Another limitation of this study may relate to the sampling process. Although a high prevalence of suicidal behaviors observed in this sample seems consistent with previous research (e.g., Chang, 1998; Kisch et al., 2005), respondents in this study were self-selected into online survey and those with suicidal thoughts could have been drawn to respond to the survey invitation. It is therefore possible that suicidal individuals were over represented in this sample. In addition, because of the use of network sampling through Asian American student organizations, it is uncertain how the individuals who are not affiliated with a campus Asian student organization might differ from the participants who responded to this survey. On the other hand, as Gosling, Vazire, Srivastrava, and John (2004) noted, the use of an Internet survey has the potential to reach participants broadly, and this investigation reaped the benefits of a large and diverse sample, potentially providing for greater generalizability of the results.
One significant drawback for being web-based in this study was the lack of assurance that the participants were adequately informed of treatment options if they were indeed at suicide risk. For example, in this study 13 individuals indicated a future likelihood of suicide at varying degrees, but there was no means to personally direct them to assistance. Although participants were strongly encouraged and provided with information on how to obtain immediate mental health assistance before and after the survey, it is unknown whether those at risk contacted appropriate service providers.

Although web-based surveys might provide access to participants who otherwise might not be receptive to a traditional survey format (Gosling et al., 2004), the traditional paper and pencil method could have provided those at potential risk with immediate attention through a debriefing process. One suggestion for web-based surveys with suicide research is to develop ways to direct participants to a help-page if they drop out prematurely feeling overwhelmed with acute suicidal thoughts. This would include pop-ups if respondents decide to close the window before completing the survey, or prompting high risk respondents to seek immediate help by providing a pop-up hyperlink to service providers. However, dropouts by suicidal respondents (i.e., by encouraging them to exit from the survey to seek help) would also have implications in suicide research because information from the very individuals that the survey is seeking would be potentially missed. The ethical dilemma of weighing scientific rewards against the potentially missed opportunity for providing services is difficult to reconcile.

Implications for Suicide Assessment and Prevention

Despite limitations in interpreting the results of this study, this study also has important implications for working with suicidal Asian American college students. First
of all, it appears that Asian American students experience a high level of suicidal behavior. This finding is particularly troublesome for counselors given data which suggest that Asian American students tend to delay seeking help (Chen et al., 2003; Kearney et al., 2005) and their subjective experience of distress is more likely underestimated by their peers (Okazaki, 2002). As such, Asian American students’ distress is often not readily observable even by those close to them, including the peer resident assistants who are frequently the first to get involved in the referral of a student.

Taken together, targeted outreach services to Asian American students seem crucial on college campuses for early detection of psychological distress and easier access to services (Choi et al., in press; Gloria & Ho, 2003; Okazaki).

The most significant implication of this study is the saliency of protective factors, as conceptualized in the CSRLI, for suicidal Asian American students. The findings of this study suggest that, when conducting a suicide assessment with suicidal Asian American students, assessing protective factors, along with assessments that focus on risk factors, would likely provide for a more confident assessment that potentially leads to better engagement with the client. Furthermore, as Westefeld et al. (1992) suggested, the utility of the CSRLI also includes using each theme of subscales as a guide to assess and identify areas to work on in counseling sessions. Thus, exploring themes of these subscales would likely deepen suicide assessment process and allow a collaborative counselor-client relationship. Specifically, in working with suicidal Asian American students, the counselor should be encouraged to explore how the clients perceive their ability to cope with problems and the extent to which they are oriented toward the future in general and their goals of completing the degree. Similarly, it would be important to
assess how clients evaluate the potential emotional impact on their family and friends and their beliefs on moral issues related to suicide, including those issues grounded in Eastern religious beliefs. Thus, these results also have a implication for counselor training. In developing multicultural competency of the trainees, there should be a more focused discussion concerning suicidal Asian American students.

In addition, this study has implications for suicide prevention with Asian American students. The findings of this investigation demonstrated that the survival and coping beliefs and college and future related concerns are particularly salient protective factors for Asian American college students. Furthermore, self-efficacy in coping skills and beliefs related to higher education seemed to be interrelated. The importance of these factors in the overall well-being of Asian American students was further supported by another study (Gloria & Ho, 2003) that indicated that beliefs regarding higher education was predicted by self-efficacy in completing college-related tasks, their perceptions of the university’s attitudes toward to diversity (i.e., “The university seems to value minority students”), and social support from family and mentors for Asian American college students.

Thus, in an effort to provide broader suicide prevention, prevention programs should focus on ways of fostering self-efficacy in coping skills (e.g., how to effectively navigate university environments), greater feelings of self-worth, and self-belief related to academic performance in Asian American students. Colleges and universities can contribute to these factors in a number of ways. First and foremost, the importance of providing culturally sensitive outreach to Asian American students cannot be overstated (Choi et al., in press; Gloria & Ho, 2003; Okazaki, 2002). The goals of outreach
programming could include increasing a sense of inclusion for Asian American students by attending to their needs, equipping them with the skills to successfully negotiate the university environments (e.g., access to mentorship), and encouraging students to seek help before they fully exhaust their inner resources. Colleges can also bridge the gap between Asian American college students and counseling center services by hiring diverse staff and by providing their services beyond the four walls of a counseling center.

In addition, Gloria and Ho (2003)’s study demonstrated that social support from family and mentors was significantly associated with greater feelings of self-esteem and accounted for the largest amount of variance in academic persistence. Furthermore, support from family was found to be more salient to Asian American students than that of friends. This finding was also consistent with research that, for Korean American students who endorsed strong collectivistic cultural attitudes, dependency on their parents was positively related to adjustment to college (Choi, 2002). Given the fact that high percentages of Asian Americans are foreign-born and likely to be unfamiliar with the American higher education system, outreach programs should include families of Asian American students so that they are better prepared to support their students at the time of difficulties (Choi et al., in press). For example, colleges can promote communication with families by having college personnel function as a liaison between school and parents and families. In turn, families can assist their sons and daughters in becoming better acclimated to college life and support them through their college years while maintaining their privacy and encouraging their independence.
Summary

Despite the limitations of this study, the results provided tentative support for the cultural validity of the College Reasons for Living Inventory with Asian American college students. Although the six factors did not obtained for this sample, the emergent five factor structure of CSRLI was essentially identical to five of the 6 original factors. Subsequent analyses also demonstrated the cultural validity of the CSRLI. Equally important, the results of this investigation demonstrated the importance of assessing protective factors, as presently operationalized in the CSRLI, as well as risk factors when working with Asian American students. As cognitive theories predict, Asian American college students with suicide risk were found to endorse lower adaptive, life-affirming cognitive schemas as compared to those without suicide risk.

Although this investigation provided tentative support for the cultural validity of the CSRLI, the results should be interpreted with caution, particularly in light of the lack of support for the sixth factor. Given the failure of replicating the sixth factor and the consistent weak internal reliability consistencies associated with Fear of Social Disapproval, additional items should be explored and tested for saliency with diverse groups of participants. By doing so, the factor structure of the CSRLI can be examined to determine if Fear of Social Disapproval indeed constitutes part of the latent structure for the CSRLI. In addition, the unique reasons for living provided by the respondents in this investigation seem worthy of further exploration in an effort to potentially uncover constructs specific to Asian American students and college students in general. Finally, future research with the CSRLI should focus on validating the factor structure of the
CSRLI within the diverse ethnic groups subsumed under the broad classification of Asian Americans.
REFERENCES


Dear Student,

You are invited to participate in a research project being conducted by Jayoung Choi, a doctoral candidate in Counseling Psychology at the University of Akron.

**Title of Study:** Exploring the Cultural Validity of the College Student Reasons for Living Inventory with Asian American College Students

**Purpose:** The purpose of this research is to explore protective factors against suicide for Asian American college students. Approximately 230 students will participate in this survey.

**Procedures:** Should you decide to participate, you will be asked to complete several questionnaires that are designed to measure attitudes toward suicide, frequencies of suicidal thoughts and behaviors, and cultural values and beliefs and brief demographic questions. Completion of this survey should take about 15 – 20 minutes.

**Eligibility:** You are eligible for the study if you are an Asian American college student, either at the undergrad or graduate level.

**Risks and Discomforts:** There are no foreseeable risks to participation in this study. However, some participants may experience negative feelings when filling out the self-report survey questions. Participants are strongly urged to seek immediate attention from a mental health professional should they feel suicidal. In that event, please contact National Suicide Prevention Hotline, 1-800-273-TALK or go to http://www.ulifeline.org/page/main/Home.html to connect with your college/university counseling center. This information will be again provided at the completion of this survey.

**Benefits:** You will receive no direct benefit from your participation in this study, but your participation may help us better understand cognitive protective factors against suicide among Asian American students.
**Incentive to Participants:** At the end of the survey, you will be directed to a page where you can choose to enter your email address to be included in a drawing for one of five $100 gift certificates to Amazon.com.

**Right to refuse or withdraw:** Your participation is voluntary, and you may refuse to participate or withdraw at any time.

**Anonymous and Confidential Data Collection:** This survey is anonymous and confidential, meaning that no identifying information will be collected and your responses will not be linked to your name or any identifying information. Also, findings will be reported only in aggregate form. No institution or program will be identified in any presentation of the research findings.

**Who to contact with questions:** If you have any questions concerning this study, you can contact me at jlc48@uakron.edu or at (330) 659-xxxx or my faculty advisor, Dr. James R. Rogers, at jrrogers@uakron.edu or at (330) 972-7799. This study is approved by the Institutional Review Board for the Protection of Human Subjects at The University of Akron. Questions regarding human subjects’ rights can also be directed to the UA Institutional Review Board, Office of Research Services and Sponsored Programs, (330) 972-7666 or 1-888-232-8790.

**Acceptance & signature:**

I have read the information provided and all of my questions have been answered. I voluntarily agree to participate in this study. My completion of this survey will serve as my consent. I may print a copy of this consent statement for future reference. Please click on the “Continue to Next Page” to start the survey!
APPENDIX B
HELP-SEEKING INFORMATION

Thank you for your participation in this study. If you experienced suicidal thoughts as you were completing this survey, I strongly urge you to seek immediate attention from a mental health professional.

1. Call National Suicide Prevention Hotline: 1-800-273-8255 (TALK) for a referral
2. Visit http://www.ulifeline.org/page/main/Home.html for more information and to connect with your own college/university counseling center. In order to search for your college/university counseling center, click on the “Student, find out more” link on the ulifeline.org home page and select your school from the drop-down menu.
APPENDIX C

HUMAN SUBJECT APPROVAL

Office of Research Services and Sponsored Programs
Akron, OH 44325-2102
(330) 972-7695 Office
(330) 972-6251 Fax

April 2, 2007

Jayoung L. Choi
3037 Whitetail Court
Rochelle, Ohio 44686

Ms. Choi:

The University of Akron's Institutional Review Board for the Protection of Human Subjects (IRB) completed a review of the protocol entitled "Protective Factors for Suicidal Behaviors in Asian American College Students: Exploring the Cultural Validity of the College Student Reasons for Living Inventory ". The IRB application number assigned to this project is 20070323.

The protocol was reviewed on March 30, 2007 and qualified for exemption from continuing IRB review. The protocol represents minimal risk to subjects and matches the following federal category for exemption:

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) Information is recorded in such a manner that subjects can be identified, directly or through identifiers linked to subjects; AND (ii) any disclosure of responses outside the research could reasonably place the subjects at risk of civil or criminal liability or be damaging to subjects' financial standing, employability or reputation

Annual continuation applications are not required for exempt projects. If you make any changes or modifications to the study's design or procedures that either increase the risk to subjects or include activities that do not fall within one of the categories exempted from the regulations, please contact the IRB first, to discuss whether or not a request for change must be submitted. Any such changes or modifications must be reviewed and approved by the IRB prior to their implementation.

Enclosed is a copy of the informed consent document, which the IRB has approved for your use in this research. In addition, your request for a waiver of documentation of informed consent, as permitted under 45 CFR 46.117(c), is also approved.

Please retain this letter for your files. If the research is being conducted for a master’s thesis or doctoral dissertation, the student must file a copy of this letter with the thesis or dissertation.

Sincerely,

[Signature]
Sharon McWhorter
Interim Director

CC: James R. Rogers, Advisor
Rosalie Hall, IRB Chair
APPENDIX D

BACKGROUND QUESTIONNAIRE

1. Age: _______

2. Sex: Male (    ) Female (    )

3. Sexual orientation: Heterosexual (    ) Gay man (    ) Lesbian (    )
    Bisexual (    ) Other (Please specify) ______________

4. Religious affiliation: None (    ) Buddhism (    ) Catholic (    ) Hinduism (    )
    Protestant (    ) Muslim (    ) Other (Please specify) ________________

5. State of Residence: __________________

6. Ethnic background (Check all that apply):
   Asian Indian (    ) Bangladeshi (    ) Cambodian (    )
   Chinese (    ) Filipino (    ) Hawaiian (    )
   Japanese (    ) Korean (    ) Laotian (    )
   Malaysian (    ) Pacific Islander (    ) Pakistani (    )
   Taiwanese (    ) Vietnamese (    )
   Other (Please specify): _______________

7. Current year/level in school:
   a. 1st year
   b. 2nd year
   c. 3rd year
   d. 4th year
   e. Graduate/Professional school

8. Please rate the extent to which your sense of “family obligation” influences your decisions or actions:
   Not at all    Somewhat    Moderately    Great Deal

9. Please rate the extent to which your desire to avoid bringing shame to your family influences your decision or actions:
   Not at all    Somewhat    Moderately    Great Deal

123
APPENDIX E

THE SUICIDE BEHAVIORS QUESTIONNAIRE-REVISED

(SBQ-R; OSMAN ET AL., 2001)

Please circle the number beside the statement or phrase that best applies to you.

1. Have you ever thought about or attempted to kill yourself (Circle only one)?
   1 = Never
   2 = It was just a brief passing thought
   3a = I have had a plan at least once to kill myself but did not try to do it
   3b = I have had a plan at least once to kill myself and really wanted to die
   4a = I have attempted to kill myself, but did not want to die
   4b = I have attempted to kill myself, and really hoped to die

2. How often have you thought about killing yourself in the past year (Circle only one):
   1 = Never
   2 = Rarely (1 time)
   3 = Sometimes (2 times)
   4 = Often (3-4 times)
   5 = Very often (5 or more times)

3. Have you ever told someone that you were going to commit suicide, or that you might do it? (Circle only one)
   1 = No
   2a = Yes, at one time, but did not really want to die
   2b = Yes, at one time, and really wanted to do it
   3a = Yes, more than once, but did not want to do it
   3b = Yes, more than once, and really wanted to do it

4. How likely is it that you will attempt suicide some day? (Circle only one)
   0 = Never
   1 = No chance at all
   2 = Rather unlikely
   3 = Unlikely
   4 = Likely
   5 = Rather Likely
   6 = Very likely
APPENDIX F

THE BECK HOPELESSNESS SCALE

COPYRIGHT © 1978 BY AARON T. BECK

Computer adaptation copyright © 2007 by Aaron T. Beck.

Adapted and reproduced with permission of publisher, Harcourt Assessment, Inc.
APPENDIX G

THE CENTER FOR EPIDEMIOLOGIC STUDIES – DEPRESSION SCALE

(CES-D; RADLOFF, 1977)

Below is a list of the ways you might have felt or behaved. Please indicate how frequently you have felt this way during the past week.

0 = Rarely or none of the time (less than 1 day)
1 = Some or a little of the time (1-2 days)
2 = Occasionally or a moderate amount of time (3-4 days)
3 = Most of all of the time (5-7 days)

1. I was bothered by things that usually don’t bother me.
2. I did not feel like eating; my appetite was poor.
3. I felt that I could not shake off the blues even with help from my family and friends.
4. I felt I was just as good as other people.
5. I had trouble keeping my mind on what I was doing.
6. I felt depressed.
7. I felt that everything I did was an effort.
8. I felt hopeful about the future.
9. I thought my life had been a failure.
10. I felt fearful.
11. My sleep was restless.
12. I was happy.
13. I talked less than usual.
15. People were unfriendly.
16. I enjoyed life.
17. I had crying spells.
18. I felt sad.
19. I felt that people dislike me.
20. I could not get “going.”
APPENDIX H
THE COLLEGE STUDENT REASONS FOR LIVING INVENTORY
(WESTEFELD ET AL., 1992)

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

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

If a reason does not apply to you or if you do not believe the statement is true, then it is not likely important and you should put a 1. Please use the whole range of choice so as not to rate only at the middle (2, 3, 4, 5) or only at the extremes (1, 6)

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

Please indicate the importance to you of each reason for not killing yourself.

1 = Not at all important (as a reason for not killing myself, or, does not apply to me).
2 = Quite Unimportant
3 = Somewhat Unimportant
4 = Somewhat Important
5 = Quite Important
6 = Extremely Important (as a reason for not killing myself)

1. Killing myself would show a lack of character
2. I have my career to look forward to
3. I would be afraid of what others might think
4. I believe I have control over my life
5. I would be hassled by my family/friends if I failed
6. I love and respect myself
7. I want people to have good/positive memories of me after I die
8. My family might believe I didn’t love them
9. It is against my religious beliefs to commit suicide
10. I want to have children
11. I’d be afraid that if I failed I’d be left with serious injury
12. I believe that only God has the right to end life
13. I want to contribute to society
14. Others depend on me (family, children) and need me
15. I wouldn’t kill myself because of the values my parents taught me
16. I’m here for a purpose
17. I want to see how people and the world will change in the future
18. I have a responsibility and commitment to my family
19. I’m a coward and would not have the guts to do it
20. I have confidence in my ability to deal with problems
21. I’ve worked too hard to throw it all away now
22. I would not want to disappoint my family
23. I am looking forward to the future
24. I consider it morally wrong
25. I’m too stable to kill myself
26. I am too young to die
27. I would cause a lot of guilt and pain for my friends
28. I want to put my college degree to good use
29. I believe I can cope with my problems
30. I just don’t think that things would be ever get bad enough to kill myself
31. I could not decide where, when, or how to do it
32. I would miss my family
33. I want to live to see what potential I have
34. Killing myself would be murder
35. I would embarrass my college/university
36. Killing myself would show that I’m a failure and cannot cope with everyday life
37. I would miss my friends
38. It would cause a lot of guilt and pain for my family
39. I’m scared of the pain that I would experience
40. I want to graduate from college
41. I enjoy life
42. I am happy
43. I’d be afraid of trying it and failing
44. I have a lot of positive things going for me
45. College will enhance my future
46. I want to succeed

Please provide any additional reasons for you NOT to kill yourself.
APPENDIX I

THE ASIAN VALUE SCALE-REVISED (AVS-R; KIM & HONG, 2004)

Use the scale below to indicate the extent to which you agree with the value expressed in each statement.

1 = Strongly Disagree
2 = Disagree
3 = Agree
4 = Strongly Agree

_____1. One should not deviate from familial and social norms.
_____2. Children should not place their parents in retirement homes.
_____3. One need not focus all energies on one's studies.
_____4. One should be discouraged from talking about one's accomplishments.
_____5. Younger persons should be able to confront their elders.
_____6. When one receives a gift, one should reciprocate with a gift of equal or greater value.
_____7. One need not achieve academically in order to make one's parents proud.
_____8. One need not minimize or depreciate one's own achievements.
_____9. One should consider the needs of others before considering one's own needs.
_____10. Educational and career achievements need not be one's top priority.
_____11. One should think about one's group before oneself.
_____12. One should be able to question a person in an authority position.
_____13. Modesty is an important quality for a person.
_____14. One's achievements should be viewed as family's achievements.
_____15. One should avoid bringing displeasure to one's ancestors.
_____16. One should have sufficient inner resources to resolve emotional problems.
_____17. The worst thing one can do is to bring disgrace to one's family reputation.
_____18. One need not remain reserved and tranquil.
_____19. One should be humble and modest.
_____20. Family's reputation is not the primary social concern.
_____21. One need not be able to resolve psychological problems on one's own.
_____22. Occupational failure does not bring shame to the family.
_____23. One need not follow the role expectations (gender, family hierarchy) of one's family.
_____24. One should not make waves.
_____25. One need not control one's expression of emotions
1. SBQ-R  
2. CSRLI  
3. SCB  
4. CFRC  
5. RFF  
6. MO  
7. FS  
8. CSE-D  
9. BHS  
10. AVS-R  
11. FO  
12. Shame

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(.76)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-.39**</td>
<td>(.93)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>-.53**</td>
<td>.87**</td>
<td>(.92)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>-.31**</td>
<td>.85**</td>
<td>.70**</td>
<td>(.91)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>-.19**</td>
<td>.74**</td>
<td>.49**</td>
<td>.50**</td>
<td>(.88)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>-.25**</td>
<td>.61**</td>
<td>.36**</td>
<td>.35**</td>
<td>.35**</td>
<td>(.87)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>.06</td>
<td>.41**</td>
<td>.09</td>
<td>.22**</td>
<td>.23**</td>
<td>.20**</td>
<td>(.78)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>.51**</td>
<td>-.33**</td>
<td>-.54**</td>
<td>-.25**</td>
<td>-.17**</td>
<td>-.15**</td>
<td>.09</td>
<td>(.91)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>.44**</td>
<td>-.43**</td>
<td>-.60**</td>
<td>-.39**</td>
<td>-.21**</td>
<td>-.22**</td>
<td>.07</td>
<td>.60**</td>
<td>(.88)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>.07</td>
<td>.08</td>
<td>-.05</td>
<td>.08</td>
<td>.14*</td>
<td>.06</td>
<td>.05</td>
<td>.19**</td>
<td>.18**</td>
<td>(.82)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>.01</td>
<td>.21**</td>
<td>.08</td>
<td>.12*</td>
<td>.37**</td>
<td>.12*</td>
<td>.05</td>
<td>-.11</td>
<td>-.01</td>
<td>.33**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>.07</td>
<td>.24**</td>
<td>.03</td>
<td>.20*</td>
<td>.36**</td>
<td>.17*</td>
<td>.13*</td>
<td>.17**</td>
<td>.03</td>
<td>.46**</td>
<td>.65**</td>
<td>-</td>
</tr>
</tbody>
</table>

Note. Cronbach’s alphas for scales presented in parenthesis along the diagonal. N = 314. Suicidal Behavior = SBQ-R; CSRLI = the College Reasons for Living Inventory; SCB = Survival and Coping Beliefs; CFRC = College and Future Related Concerns; RFF = Responsibility to Friends and Family; MO = Moral Objections; FS = Fear of Suicide; CES-D = Depression; BHS = Hopelessness; AVS-R = Acculturation; FO = Family Obligation.
APPENDIX K

THE CSRLI ITEMS NOT MEETING THE FACTOR LOADING CRITERIA

1. Killing myself would show a lack of character
3. I would be afraid of what others might think
5. I would be hassled by my family/friends if I failed
7. I want people to have good/positive memories of me after I die
26. I am too young to die
35. I would embarrass my college/university
36. Killing myself would show that I’m a failure and cannot cope with everyday life
37. I would miss my friends
<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Factor 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 42</td>
<td>.88</td>
<td>-.05</td>
<td>-.01</td>
<td>-.02</td>
<td>-.02</td>
</tr>
<tr>
<td>Item 20</td>
<td>.87</td>
<td>-.05</td>
<td>-.02</td>
<td>-.10</td>
<td>-.02</td>
</tr>
<tr>
<td>Item 29</td>
<td>.85</td>
<td>.009</td>
<td>-.01</td>
<td>-.06</td>
<td>-.06</td>
</tr>
<tr>
<td>Item 41</td>
<td>.81</td>
<td>-.01</td>
<td>.03</td>
<td>.04</td>
<td>-.06</td>
</tr>
<tr>
<td>Item 25</td>
<td>.71</td>
<td>-.01</td>
<td>-.07</td>
<td>.12</td>
<td>.12</td>
</tr>
<tr>
<td>Item 44</td>
<td>.71</td>
<td>.09</td>
<td>.05</td>
<td>-.03</td>
<td>.02</td>
</tr>
<tr>
<td>Item 6</td>
<td>.63</td>
<td>.09</td>
<td>-.04</td>
<td>.15</td>
<td>-.14</td>
</tr>
<tr>
<td>Item 30</td>
<td>.61</td>
<td>-.05</td>
<td>-.01</td>
<td>.07</td>
<td>.12</td>
</tr>
<tr>
<td>Item 4</td>
<td>.49</td>
<td>.15</td>
<td>.03</td>
<td>-.23</td>
<td>.03</td>
</tr>
<tr>
<td>Item 23</td>
<td>.48</td>
<td>.31</td>
<td>.10</td>
<td>.06</td>
<td>-.16</td>
</tr>
<tr>
<td>Item 26</td>
<td>.34</td>
<td>.33</td>
<td>-.11</td>
<td>.05</td>
<td>.15</td>
</tr>
<tr>
<td>Item 40</td>
<td>-.11</td>
<td>.92</td>
<td>-.10</td>
<td>-.08</td>
<td>.12</td>
</tr>
<tr>
<td>Item 45</td>
<td>.05</td>
<td>.88</td>
<td>-.15</td>
<td>-.08</td>
<td>.10</td>
</tr>
<tr>
<td>Item 28</td>
<td>-.03</td>
<td>.85</td>
<td>-.01</td>
<td>-.10</td>
<td>.04</td>
</tr>
<tr>
<td>Item 46</td>
<td>.19</td>
<td>.68</td>
<td>.03</td>
<td>-.09</td>
<td>-.04</td>
</tr>
<tr>
<td>Item 17</td>
<td>.04</td>
<td>.66</td>
<td>-.09</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>Item 2</td>
<td>.13</td>
<td>.61</td>
<td>.04</td>
<td>.05</td>
<td>-.04</td>
</tr>
<tr>
<td>Item 33</td>
<td>.24</td>
<td>.55</td>
<td>.00</td>
<td>-.05</td>
<td>-.04</td>
</tr>
<tr>
<td>Item 10</td>
<td>-.05</td>
<td>.48</td>
<td>.05</td>
<td>.28</td>
<td>-.08</td>
</tr>
<tr>
<td>Item 21</td>
<td>.27</td>
<td>.43</td>
<td>.19</td>
<td>-.17</td>
<td>.09</td>
</tr>
<tr>
<td>Item 13</td>
<td>.17</td>
<td>.42</td>
<td>.09</td>
<td>.13</td>
<td>-.13</td>
</tr>
<tr>
<td>Item 38</td>
<td>-.06</td>
<td>-.16</td>
<td>.96</td>
<td>-.07</td>
<td>.03</td>
</tr>
<tr>
<td>Item 22</td>
<td>-.06</td>
<td>-.02</td>
<td>.88</td>
<td>-.04</td>
<td>-.02</td>
</tr>
<tr>
<td>Item 27</td>
<td>.13</td>
<td>-.20</td>
<td>.77</td>
<td>-.06</td>
<td>.05</td>
</tr>
<tr>
<td>Item 18</td>
<td>.03</td>
<td>.12</td>
<td>.73</td>
<td>.02</td>
<td>-.14</td>
</tr>
<tr>
<td>Item 8</td>
<td>-.10</td>
<td>-.12</td>
<td>.63</td>
<td>.02</td>
<td>.12</td>
</tr>
<tr>
<td>Item 14</td>
<td>.06</td>
<td>.07</td>
<td>.62</td>
<td>-.06</td>
<td>-.08</td>
</tr>
<tr>
<td>Item 32</td>
<td>.02</td>
<td>.18</td>
<td>.46</td>
<td>.04</td>
<td>.14</td>
</tr>
<tr>
<td>Item 15</td>
<td>.20</td>
<td>-.01</td>
<td>.45</td>
<td>.29</td>
<td>.00</td>
</tr>
<tr>
<td>Item 7</td>
<td>.04</td>
<td>.23</td>
<td>.35</td>
<td>.06</td>
<td>.09</td>
</tr>
<tr>
<td>Item 37</td>
<td>.12</td>
<td>.22</td>
<td>.29</td>
<td>.00</td>
<td>.16</td>
</tr>
<tr>
<td>Item</td>
<td>Factor 1</td>
<td>Factor 2</td>
<td>Factor 3</td>
<td>Factor 4</td>
<td>Factor 5</td>
</tr>
<tr>
<td>-------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Item 1</td>
<td>-.02</td>
<td>.11</td>
<td>.28</td>
<td>.09</td>
<td>.08</td>
</tr>
<tr>
<td>Item 9</td>
<td>-.13</td>
<td>-.12</td>
<td>.02</td>
<td>.96</td>
<td>-.03</td>
</tr>
<tr>
<td>Item 12</td>
<td>-.10</td>
<td>-.07</td>
<td>.01</td>
<td>.91</td>
<td>-.03</td>
</tr>
<tr>
<td>Item 24</td>
<td>.18</td>
<td>-.06</td>
<td>-.02</td>
<td>.72</td>
<td>.12</td>
</tr>
<tr>
<td>Item 34</td>
<td>.11</td>
<td>.00</td>
<td>-.13</td>
<td>.69</td>
<td>.19</td>
</tr>
<tr>
<td>Item 16</td>
<td>.14</td>
<td>.31</td>
<td>.08</td>
<td>.43</td>
<td>-.20</td>
</tr>
<tr>
<td>Item 39</td>
<td>.24</td>
<td>-.11</td>
<td>-.03</td>
<td>-.02</td>
<td>.73</td>
</tr>
<tr>
<td>Item 19</td>
<td>.22</td>
<td>-.30</td>
<td>-.01</td>
<td>-.04</td>
<td>.70</td>
</tr>
<tr>
<td>Item 43</td>
<td>-.18</td>
<td>.13</td>
<td>-.02</td>
<td>-.04</td>
<td>.64</td>
</tr>
<tr>
<td>Item 31</td>
<td>-.01</td>
<td>.20</td>
<td>-.11</td>
<td>.14</td>
<td>.52</td>
</tr>
<tr>
<td>Item 11</td>
<td>-.24</td>
<td>.13</td>
<td>.02</td>
<td>.04</td>
<td>.45</td>
</tr>
<tr>
<td>Item 3</td>
<td>-.10</td>
<td>.03</td>
<td>.32</td>
<td>.04</td>
<td>.37</td>
</tr>
<tr>
<td>Item 5</td>
<td>-.19</td>
<td>.18</td>
<td>.08</td>
<td>-.03</td>
<td>.36</td>
</tr>
<tr>
<td>Item 36</td>
<td>.09</td>
<td>.07</td>
<td>.22</td>
<td>-.06</td>
<td>.34</td>
</tr>
<tr>
<td>Item 35</td>
<td>-.05</td>
<td>.28</td>
<td>-.10</td>
<td>.20</td>
<td>.28</td>
</tr>
</tbody>
</table>

*Note.* Factor loadings in bold are greater than .40.