Investigating Exercise Readiness and Life Stress among Undergraduate Students at an Historically Black University

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Investigating Exercise Readiness and Life Stress among Undergraduate Students at an Historically Black University

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ABSTRACT

Background: Given the disparity of research regarding Historically Black College and University (HBCU) students’ health and chronic disease risk, investigation of exercise readiness and life stress is warranted.

Purpose: This study investigated exercise readiness and life stress among undergraduate students at an HBCU.

Method: The quantitative cross-sectional study utilized a Stages of Change framework. A survey determined exercise readiness and life stress scores among HBCU undergraduates (n = 304).

Results: Most respondents (57%) were exercising regularly and classified in the Action and Maintenance stages. Approximately 44% reported normal Body Mass Index (BMI), and nearly 50% were overweight or obese. Life stress scores ranged from 1 to 30 (M = 14.23, SD = 6.05). Scores were highest in the Precontemplation stage (M = 15.64, SD = 4.31) and lowest in the Contemplation stage (M = 12.54, SD = 5.64). Median life stress scores were not statistically different between exercise readiness groups χ² (4) = 5.61, p = .193.

Discussion: Freshmen, especially females, should be encouraged to continue exercising to maintain a healthy BMI and reduce chronic disease risk.

Translation for Health Education Practice: HBCU exercise interventions call for a socio-ecological approach based on current readiness stage distribution.

Background

The experiences and challenges of college provide students with opportunities to explore new pursuits that can form the foundation of lifelong healthy choices. A college education has the potential to increase income and access to health care. Logically, the expectation is that college students should strive to be healthy; but other factors such as exercise, life stress, and demographics may play a role in health outcomes.

Obesity and overweight are leading health concerns that contribute greatly to chronic illnesses and conditions such as cardiovascular disease, cancer, diabetes, respiratory disease, and musculoskeletal disorders. According to the Centers for Disease Control and Prevention, non-Hispanic Blacks (49.6%) have the highest obesity rates adjusted for age. Overall, among young adults (aged 20–39 years) in the United States, the prevalence of obesity is 40% with Black males at 37.5% and females at 56.1%. In the state of Alabama, the adult obesity rate for African Americans is greater than 35% and contributes to significantly higher risk diabetes and cardiovascular disease in this population. Also, according to the American Heart Association, African Americans experience the highest rate of hypertension in the United States.

Additionally, exercise and physical activity are key factors in the prevention and reduction of obesity and overweight. Physical inactivity accounts for approximately 25% of all breast cancers, colon cancers, and diabetes, and 30% of heart disease cases. Physical activity is defined as bodily movement that requires energy expenditure and use of skeletal muscles. Exercise is a type of physical activity that is structured and purposeful such as running, biking, jumping rope, dancing, and lifting weights. The U.S. Department of Health and Human Services recommends 150 minutes of moderate-intensity or 75 minute of vigorous-intensity aerobic activity per week for adults. Vigorous to moderate regular exercise has been associated with reduced risk of high blood pressure among the Black population. However, only half of all Americans, and more specifically only one-third of Black women, meet the national guidelines for exercise.

Stress is another major contributor to heart disease and other chronic conditions. Stress can be thought of...
as a physiological response to challenging situations. Stressors can be positive or negative events that disrupt a person’s natural state of balance or homeostasis. Stressful life events require adaptation and may have possible health consequences.

Chronic stress may act as a contributing factor in weight gain due to the relationship among stress, obesity, and psychosocial factors. College is a time of vulnerability and psychological stress for young adults and is associated with weight gain and increased chronic disease risk. Furthermore, the transition to college and subsequent weight gain is greater in males with higher perceived stress.

African American students likely experience additional stress related to negative cultural bias. The literature has consistently demonstrated the negative impact of racism on Black emerging adults. For example, Willis & Neblett examined the importance of embracing racial identity among African American college students, a developmental milestone that their white counterparts may not fully experience. Moreover, Black males experience traumatic events at a significantly higher rate than all other demographic groups. Additional research identifies other racially influenced stressors, such as the need for psychotherapy, related depressive symptoms, and physiological impact. Though having a healthy racial identity has advantages, the process of developing one is associated with increased stress for African American college students. However, the relationship between life stress and exercise readiness is unknown.

Further, no available research has indicated whether exercise impacts life stress among college students attending an Historically Black College or University (HBCU). Because of the connections between life stress and weight gain in young adults, the college campus is a potentially favorable setting to impact student health. Currently, there is a disparity of research in HBCU health. The HBCU environment provides an opportunity to address the unique health challenges of the Black population.

The current study is important because of its implications for health education, exercise, life stress among Black college students. It addresses the dearth of research by examining the relationship between exercise and stress among the HBCU population. The current study identifies exercise readiness stages and life stress scores for participants. Explication of these factors creates a platform to address minority health issues. Ultimately, this research intends to contribute to the reduction of chronic disease risk factors, such as overweight and obesity, among the HBCU population.

**Purpose**

The purpose of this study is to investigate the relationship between exercise readiness and life stress among undergraduate students at an HBCU. The current study was intended to identify participant exercise readiness stages, life stress scores, and correlation between these factors that may facilitate progression through the stages of change.

This study addressed the following research questions:

1. What is the stage of readiness to exercise among participants?
2. What is the life stress score for participants?
3. What is the relationship between exercise readiness and life stress?
4. What is the demographic make-up of participants?

**Methods**

The current quantitative, non-experimental study utilized the Stages of Change (SOC) as a framework. The SOC posits that behavior change occurs in stages inclusive of specific actions for progression to the next stage. These sequential stages are described as the following:

1. Precontemplation – not intending to change behavior within the next 6 months
2. Contemplation – intending to change behavior within the next 6 months
3. Preparation – intending to change behaviors in the next month
4. Action – behavior change is less than 6 months ago
5. Maintenance – continuing the behavior for 6 months or more

**Setting and sample**

In the current study, the convenience sample consisted of 304 undergraduate students at an Alabama HBCU enrolled in an introductory personal and community health class. The students were primarily African American undergraduates, based on demographic information collected through the survey. The participants were selected because of their willingness and availability to complete the survey.
Ethical considerations

The Institutional Review Board at Alabama Agricultural and Mechanical University reviewed and approved the current study. Researchers gained consent from participants through a survey cover letter. The cover letter indicated that participation was voluntary and stated the purpose, procedure, and contact information for the study. The return of the survey implied consent. Participants were ensured confidentiality by not asking for names or other identifying information on questionnaires.

Data collection

The HBCU was selected because of faculty and student interest in the research, convenience, and availability to participate. Researchers coordinated a schedule with faculty to attend undergraduate health classes to collect data for cross-sectional research. Students that were willing and able to serve as participants completed the survey during class. Researchers briefly interacted with the subjects as a group to give direction, answer questions, and distribute surveys and pencils. Surveys took approximately 20 minutes to complete and were immediately submitted. The written survey information was entered into a password-protected digital spreadsheet for analysis.

Instrumentation

Surveys are advantageous in gathering sensitive information anonymously from a large group in a limited amount of time. Following an extensive literature review, input from researchers, and the study population, a survey was developed and evaluated for face validity by three judges in health education, physical education, and behavioral sciences. The survey consisted of three sections: Exercise readiness, life stress, and demographics.

The SOC as applied to exercise has demonstrated test-retest reliability and construct validity in numerous studies and populations including young adults. Permission for research purposes was extended by Dr. James O. Prochaska for use of the Exercise Stages of Change Short Form. Regular exercise was defined on the survey as "any planned physical activity performed to increase physical fitness, performed 3 to 5 times per week for 20–60 minutes per session."

The staging system applied to exercise readiness read as follows in the first section of the survey: Do you exercise regularly according to the above definition?

(a) YES, I have been for more than 6 months.
(b) YES, I have been, but for less than 6 months.

(c) NO, but I intend to in the next 30 days.
(d) NO, but I intend to in the next 6 months.
(e) NO, and I do not intend to in the next 6 months.

Multiple choice responses for the section correlate to SOC readiness stages, respectively: Maintenance, Action, Preparation, Contemplation, and Precontemplation. Life stress was evaluated in the survey’s second section using a 39-item checklist of stressful life events potentially experienced by participants in the last year. The checklist was informed by the Holmes-Rahe Life Stress Inventory, current literature, and qualitative input from the study researchers and population. The Holmes-Rahe Life Stress Inventory allows for free use, lists common stressful life events, and was customized for use in the current study. Checklist statements were written for applicability to the participants (primarily college freshmen). For example, the Holmes-Rahe Life Inventory lists “retirement from work” and “son or daughter leaving home” as stressful life events. These questions were determined by the researchers to be irrelevant to the predominately young adult study population and removed from the checklist. "Taking on a mortgage,” “troubles with the boss,” and “gaining a new family member” were adapted on the checklist to “taking on a student loan,” “trouble with an instructor,” and “becoming a parent,” respectively.

The directions for the life stress checklist and the first ten items in the second section of the survey were as follows: Place a checkmark in the column to show each life event that has happened to you in the last year.

1. Death of a close family member
2. Death of a close friend
3. Divorce of parents
4. Detention in jail or other institution
5. Major personal injury or illness
6. Marriage
7. Becoming a parent
8. Being fired at work
9. Caring for children, spouse, or parent
10. Major change in the health or behavior of a family member

For a complete list of all items on the life event checklist, see Appendix.

The Holmes-Rahe Life Stress Inventory is well-researched, documented, and widely accepted. The scale has been successfully applied to a variety of populations, including African Americans in the United States. However, there is inherent variation in the life stress caused by particular stressors because of individual circumstances, resources, and personality. Therefore, the values in the Holmes-Rahe scale are only rough qualitative
approximations. As a result, on the current checklist, life stress items were unranked and equally weighted with a value of one. The number of life events indicated by participants was totaled to determine the life stress score. For example, a life stress score of zero indicated that the participant did not experience any of the events in the previous year. A maximum life stress score of 39 specified that the participant experienced each of the 39 events in the last year.

Results

Sample participants

There were 413 respondents overall. Surveys that were incomplete (n = 109) were omitted from the study. Incomplete demographic data did not exclude surveys from the study given the rest of the sections were complete. Overall, 304 participants completed the survey. Demographic variables collected from the participants and included in the study were sex, race/ethnicity, age, and classification. Most of the participants identified as Black or African American (91.5%) and were female (61.2%). The majority were between the ages of 18–24 (97.4%) and classified as freshmen (76.3%). Table 1 summarizes the demographic variables of the sample.

Additionally, the demographics section of the survey asked for participant height and weight. Based on these self-reported items, researchers calculated participant Body Mass Index (BMI) using the CDC Adult BMI Calculator. According to these calculations, participants were then categorized as underweight (BMI <18.5), normal (BMI 18.5 to <25), overweight (25.0 to <30), or obese (BMI ≥30).

Body Mass Index for participants ranged from 16.5 to 87.9 (M = 26.5, SD = 6.9). Approximately 44% of participants were categorized as normal BMI, and nearly 50% of participants were classified as overweight or obese. Less than 2% were underweight and the remainder of participants was unreported. A higher percentage of males (46.2%) than females (41.9%) were categorized as normal for BMI. Males were also reported as overweight or obese (50.4%) at a higher percentage than females (48.9%). Females had slightly higher underweight (2.2%) or unreported (7.0%) percentages than males (1.7%, 1.7%), respectively. Table 2 provides frequencies and percentages for BMI categories according to sex. See Table 2 for frequency of BMI categories by sex.

Table 3 contains the response choice, exercise readiness stage, and the corresponding frequencies and percentages. Approximately 57% of respondents were categorized in the Maintenance or Action stages and met the definition for exercising regularly. The remaining 43% were categorized in the Preparation, Contemplation, and Precontemplation stages which did not meet the criteria for regular exercise. Stratification by sex indicated that nearly 78% of males were exercising regularly as compared to 43% of females.

### Table 1. Summary of Demographic Variables of Sample.

<table>
<thead>
<tr>
<th>Demographics</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>117</td>
<td>38.5%</td>
</tr>
<tr>
<td>Female</td>
<td>186</td>
<td>61.2%</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Total</td>
<td>304</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black or African American</td>
<td>278</td>
<td>91.5%</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>6</td>
<td>1.9%</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>2</td>
<td>0.7%</td>
</tr>
<tr>
<td>Native Hawaiian/Pacific Islander</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>0.9%</td>
</tr>
<tr>
<td>Multi-Racial</td>
<td>13</td>
<td>4.3%</td>
</tr>
<tr>
<td>No Response</td>
<td>2</td>
<td>0.7%</td>
</tr>
<tr>
<td>Total</td>
<td>304</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>Age (in years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–24</td>
<td>296</td>
<td>97.4%</td>
</tr>
<tr>
<td>25–29</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>30–34</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>35–39</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>40–44</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>45–49</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>50 &amp; Over</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Total</td>
<td>304</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>Classification</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>232</td>
<td>76.3%</td>
</tr>
<tr>
<td>Sophomore</td>
<td>42</td>
<td>13.8%</td>
</tr>
<tr>
<td>Junior</td>
<td>19</td>
<td>6.3%</td>
</tr>
<tr>
<td>Senior</td>
<td>10</td>
<td>3.3%</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Total</td>
<td>304</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

### Table 2. Frequency of Body Mass Index Categories by Sex.

<table>
<thead>
<tr>
<th>BMI Category</th>
<th>Male</th>
<th>%</th>
<th>Female</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight (BMI &lt;18.5)</td>
<td>2</td>
<td>1.7%</td>
<td>4</td>
<td>2.2%</td>
</tr>
<tr>
<td>Normal (BMI 18.5 to &lt;25)</td>
<td>54</td>
<td>46.2%</td>
<td>78</td>
<td>41.9%</td>
</tr>
<tr>
<td>Overweight (25.0 to &lt;30)</td>
<td>33</td>
<td>28.2%</td>
<td>51</td>
<td>27.4%</td>
</tr>
<tr>
<td>Obese (BMI ≥30)</td>
<td>26</td>
<td>22.2%</td>
<td>40</td>
<td>21.5%</td>
</tr>
<tr>
<td>Unreported</td>
<td>2</td>
<td>1.7%</td>
<td>13</td>
<td>7.0%</td>
</tr>
</tbody>
</table>

### Table 3. Frequency for Exercise Readiness Item Response and Corresponding Exercise Readiness Stage.

<table>
<thead>
<tr>
<th>Response Choice</th>
<th>Exercise Readiness Stage</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES, I have been for more than 6 months.</td>
<td>Maintenance</td>
<td>94</td>
<td>30.9%</td>
</tr>
<tr>
<td>YES, I have been, but for less than 6 months.</td>
<td>Action</td>
<td>78</td>
<td>25.7%</td>
</tr>
<tr>
<td>NO, but I intend to in the next 30 days.</td>
<td>Preparation</td>
<td>79</td>
<td>26.0%</td>
</tr>
<tr>
<td>NO, I do not intend to in the next 6 months.</td>
<td>Contemplation</td>
<td>39</td>
<td>12.8%</td>
</tr>
<tr>
<td>NO, and I do not intend to in the next 6 months.</td>
<td>Precontemplation</td>
<td>14</td>
<td>4.6%</td>
</tr>
</tbody>
</table>
Conversely, 57% of females indicated that they were not exercising regularly as contrasted to 22% of males.

**Life stress**

Life stress was evaluated in the second section of the Exercise and Life Stress Survey. Respondents ($n = 304$) were asked to indicate which life events occurred in their life during the last year. The number of life events was totaled for each participant to determine the life stress score. Scores ranged from 1 to 31 ($M = 14.23, SD = 6.05$). Sorted by exercise readiness stage, life stress scores were highest in the Precontemplation stage ($M = 15.64, SD = 4.31$) and lowest in the Contemplation stage ($M = 12.54, SD = 5.64$). See Table 4 for a summary of life stress scores descriptives according to exercise readiness Stage of Change.

**Exercise readiness in relation to life stress**

A one-way analysis of variance (ANOVA) test was used to determine if there were statistically significant differences between means for each of the five stages of exercise readiness and life stress scores. Exercise readiness served as the independent variable with each stage standing as an independent group. Life stress scores served as the dependent variable. The assumption of normality was met, and visual inspection of a boxplot revealed no extreme outliers in the data.

The results of the one-way ANOVA indicated that median life stress scores were not statistically different between groups $\chi^2 (4) = 55.61, p = .193$. Bonferroni post hoc analysis confirmed no statistically significant differences between groups in multiple comparisons.

**Discussion**

As in all research, study findings are potentially impacted by delimitations and limitations. The current study was delimited to undergraduate students in one Alabama HBCU enrolled in a personal and community health course. To be included in the study, participants had to be present in class on the day of the survey administration. Limitations include the finite nature of the sample size, nonrandom sampling, and self-report bias. There is also a lack of prior research that applies the SOC to HBCU health. Finally, research bias may occur due to the primary investigator’s dual role as the professor for the course from which the sample was drawn.

The target behavior for participants was the readiness to exercise 20 to 60 minutes three to five times a week. In the current study, the SOC was used to identify the current stage of exercise readiness of participants. Slightly more than half of respondents were exercising regularly as indicated by the Action and Maintenance stages. Although over half of the women reported exercising regularly, findings indicated there was a disparity between the sexes. Impressively, more than three-fourths of the men indicated they were classified in the Action or Maintenance stages for exercise. Consistent with current literature regarding the Black and African American population, there were fewer women exercising regularly.

The SOC is a component of the greater Transtheoretical Model (TTM). Ultimately, the goal of the TTM is to facilitate change by movement to higher stages of the SOC through cognitive and behavioral processes. In the Action stage, individuals gain confidence, willpower, and commitment to exercise. Short-term positive reinforcement and support from others sustains motivation. People move into the Maintenance stage when they continue to exercise regularly for six months or more. Characteristically, they see their progress and accomplishments while developing coping strategies to maintain their lifestyle. Suggestions to encourage stage progression include applying evidence-based strategies, providing incentives, and removing barriers. Additionally, behavioral and experiential processes should include identifying emotional experiences associated with exercise, cognitive reappraisal of values, making a commitment to exercise, belief in ability to exercise, avoiding stimuli contrary to exercise, and social support to help initiate and maintain exercise.

For example, students making a commitment to regular exercise may seek social support such as a workout buddy, accountability partner, or a coach. Additionally, they may be encouraged by social norms on campus as they realize that other students are supportive of exercise. Individual and group recognition, rewards, advocacy, and cues to action (such as posters, social media, or e-mail blasts) may bolster the continuation to exercise. Additional stage progression facilitators could include 24-hour gym access, fitness classes, and noncompetitive movement opportunities (i.e., walking paths or hiking trails).

Interestingly, participants had a lower rate of overweight and obesity as compared to state and national.
averages. These results are consistent with the additional finding that a majority of respondents reported exercising regularly based on their Action and Maintenance stage classifications. Regular exercise logically leads to lower BMI. The lower rate of overweight and obesity could perhaps also be explained by the fact that college students have obtained a higher education level than the general population and may also benefit from exceptional socioeconomic status. The relationship between health, education, and socioeconomics is previously well established. However, the findings should take into consideration that participant height and weight were self-reported with a few being unreported (see Table 1). This could have potentially introduced bias into BMI calculations and descriptive statistics. Access to a state-of-the-art health and wellness facility on campus could have also been a facilitator in the exercise readiness and BMI of students.

In the current study, life stress was not significantly correlated with exercise. Participants experienced a wide range of life stress events in all stages of exercise readiness. Although students with no intention to exercise regularly in the next six months (i.e., the Precontemplation stage) did exhibit the highest life stress scores, there was no significant relationship. Additionally, it is possible that the students absent on the day of survey administration were not in attendance because of stressful life events.

**Translation to Health Education Practice**

Promoting regular exercise among college students calls for effective interventions. Institutions of higher learning are strategically poised to support students as they lay their emerging health foundations. Because African Americans comprise a large portion of their student population, HBCUs have the unique opportunity to influence Black students to maintain a healthy BMI, reduce chronic disease risk, and decrease the negative impacts of stress. These tasks are directly related to the National Commission for Health Education Credentialing Inc. Core Responsibilities, Competencies, and Sub-Competencies for health education specialists. The current research sought to evaluate exercise readiness and life stress among undergraduate students at an HBCU, thus meeting Competencies 4.2 through 4.5 (design research studies, manage the collection, and analysis of research data using appropriate technology, interpret data, and use findings).

Moving forward, HBCUs should advocate for student wellness through physical and mental health education (Area VII). School and community stakeholders should be identified and engaged (Sub-Competency 1.1.5).

Identifying and evaluating existing available resources (Sub-Competency 1.3.4) and providing students with additional health-promoting resources and services may cultivate a campus culture conducive to regular exercise and stress reduction. Additionally, positive health messaging from HBCUs should be customized to reflect input from their student population (Sub-Competency 2.2.2 6.1.1, and 6.3.3). For example, freshmen, especially females, should be encouraged to continue exercising and therefore consulted in the planning process (Sub-Competency 2.2.2).

Assessing the needs of the HBCU population includes determining the readiness stage distribution for exercise (Sub-Competency 4.3.6). Intervention recommendations should be based on the current research findings indicating that the majority of respondents are already exercising regularly (Sub-Competency 4.3.6). Subsequent stage-matched interventions should consider student classification in Action or Maintenance stages and address multi-level (individual, interpersonal, organizational, community, policy) determinants of health (Sub-Competency 8.1.5). This comprehensive socio-ecological strategy is necessary to promote the level of exercise sufficient to reduce chronic disease risk (Sub-Competency 8.1.5).

Research is a foundational tenant of health education practice (Area IV). Given the paucity of literature addressing exercise readiness and stress among Black students, continuing research is merited (Sub-Competency 8.1.4). Further research could compare upper and lower classmen and their exercise readiness and life stress. Additionally, a longitudinal study following a cohort of entering freshmen throughout their college career might examine changes in exercise and life stress over time. Given the difference in male and female levels of regular exercise, an in-depth study of HBCU females is warranted (Sub-Competency 8.1.4). Exploration of barriers to exercise might yield insight since life stress was not shown to be correlated in the current study.

**Disclosure statement**

We have no known conflict of interest to disclose.

**Ethical restriction**

Data not available due to ethical restrictions. Due to the nature of this research, participants of this study did not agree for their data to be shared publicly, so supporting data is not available.

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Isa Jenkins  http://orcid.org/0000-0002-0878-8029
Christine Highfill  http://orcid.org/0000-0003-1436-3198
References


Appendix

Life Stress Events

1. Death of close family member
2. Death of a close friend
3. Divorce of parents
4. Detention in jail or other institution
5. Major personal injury or illness
6. Marriage
7. Becoming a parent
8. Being fired at work
9. Caring for children, spouse, or parent
10. Major change in the health or behavior of a family member
11. Pregnancy
12. Sexual difficulties
13. Major change in finances (worse off or better off than usual)
14. Homelessness
15. Evicted from residence
16. Serious argument with a close family member
17. Problems with a girlfriend or boyfriend
18. Taking on a student loan
19. Increased workload at school
20. First semester in college
21. Outstanding personal achievement
22. Starting a new job
23. Change in living conditions
24. Change in personal habits (dress, friends, quitting smoking, etc.)
25. Trouble with an instructor
26. Trouble with a roommate
27. Change in residence
28. Changing to a new school
29. Major change in church activity
30. Major change in social activity
31. Major change in sleeping habits
32. Major change in the number of family get-togethers
33. Major change in eating habits
34. Chronic car or transportation problems
35. Incarceration of a close family member
36. Changing majors
37. Vacation
38. Lower grades than expected
39. Minor traffic violation