Symptoms of Depression Among Female Nursing Students

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This study examines the extent to which depressive symptoms in female nursing students are affected by specific stressors and coping styles. Three hypotheses were examined for differences in symptoms of depression scores and a model was tested for predicting depression in female nursing students. Responses were gathered from three questionnaires (Hassles and uplifts Scales, Symptoms of Stress Inventory, and Coping Styles) from 408 female baccalaureate, master’s and doctoral students from a major Midwest research university. Symptoms of depression were not significantly different among the students and were as high as a comparative group of stress management clients. Path analysis was used to examine the patterns of stressors (hassles, uplifts, personal and student-related stress), coping (coping styles, habits, quitting school, and drug use), and a biological factor (depression around the menstrual cycle) that predicted symptoms of depression. All hypothesized variables had direct paths to symptoms of depression; the path model explained 56% of the variance. Results from this study support the biological and psychological theories of depression in women and raise important questions of particular relevance to women, nursing students and educators.

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STRESS AND COPING frameworks have been used extensively to understand behavior in relation to life events, stressful conditions, and health alterations. Stress has long been associated with the development and maintenance of depression: diathesis-stress models describe depression as an outcome of severe, excessive, or chronic stressful life events. Yet, less attention has been given to coping and the specific relationships among stress, coping styles or behaviors, and depression. Rippere (1977) noted that coping had been ignored theoretically and practically in relation to depression. In this study, a secondary analysis of data from a larger project on stress and coping in nursing students, the researchers examined the extent to which depressive symptoms in female nursing students are affected by specific stressors and coping styles. Therefore, the purpose of this study was to examine predictors of symptoms of depression in female nursing students. The following hypotheses were tested in the study:

1. There will be no significant differences in symptoms of depression scores between undergraduate, master’s, and doctoral female nursing students.
2. There will be no significant differences in symptoms of depression scores of female nursing students compared with a normative sample of stress management clients.
3. Hassles, uplifts, coping styles, depression around the menstrual cycle, age, quitting school,
REVIEW OF LITERATURE

Although stress and coping models have been put forth to explain depression, much of this research has emphasized the role of stress in relation to onset or maintenance of depression (Brown & Harris, 1978, 1986; Paykel, 1991). Stressors associated with onset of depression include major life events (Paykel, 1982) and hassles and uplifts going life stress has been noted to have a significant impact on the clinical course of depression, including recovery and relapse, as well as its onset (Brown & Harris, 1978; Monroe & Depue, 1991). In spite of the diversity of conceptual definitions and measures of stress, research consistently has shown the linkage between stressful life circumstances and depressive symptoms. However, there is no clear linear relationship between stress and depression. Many individuals who experience major stressors do not develop depression and for those who do, stress is only one of many variables associated with depression (Brown & Harris, 1978; Monroe & Depue, 1991). Coping strategies have been associated with depression and may be mediating variables between stress and depression (Billings & Moos, 1984). In addition, biological factors appear to be related to depression (Kessler, et al. 1994; Lewinsohn, Rohde, Seeley, & Fischer, 1993). Biological theories of depression have also focused on phases of women's menstrual cycle, such as the beginning of the menstrual cycle (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Biological theories of depression have also focused on phases of women's menstrual cycle, such as the beginning of the menstrual cycle (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Biological theories of depression have also focused on phases of women's menstrual cycle, such as the beginning of the menstrual cycle (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Biological theories of depression have also focused on phases of women's menstrual cycle, such as the beginning of the menstrual cycle (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Biological theories of depression have also focused on phases of women's menstrual cycle, such as the beginning of the menstrual cycle (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Biological theories of depression have also focused on phases of women's menstrual cycle, such as the beginning of the menstrual cycle (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Biological theories of depression have also focused on phases of women's menstrual cycle, such as the beginning of the menstrual cycle (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Biological theories of depression have also focused on phases of women's menstrual cycle, such as the beginning of the menstrual cycle (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Biological theories of depression have also focused on phases of women's menstrual cycle, such as the beginning of the menstrual cycle (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Biological theories of depression have also focused on phases of women's menstrual cycle, such as the beginning of the menstrual cycle (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Biological theories of depression have also focused on phases of women's menstrual cycle, such as the beginning of the menstrual cycle (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Biological theories of depression have also focused on phases of women's menstrual cycle, such as the beginning of the menstrual cycle (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Biological theories of depression have also focused on phases of women's menstrual cycle, such as the beginning of the menstrual cycle (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Biological theories of depression have also focused on phases of women's menstrual cycle, such as the beginning of the menstrual cycle (Nolen-Hoeksema, Morrow, & Fredrickson, 1993).
difficulty making decisions; (6) feeling of hopelessness.

Recent research has shown that depressive symptoms that do not meet DSM-IV criteria for Major Depression or Dysthymia still affect an individual’s functioning and subclinical depressive symptoms are a major risk factor for onset of Major Depressive Disorder (Depression Guideline Panel, 1993).

The field of nursing, which is a predominantly female field, provides an opportune population in which to examine depressive symptoms among women. Researchers have emphasized that nursing education can be stressful for students, (e.g., Beck & Srivastava, 1991; Williams, 1988); thus, nursing students can be characterized as potentially prone to depression because of their risk factors of female gender and high stress. Further understanding of these findings could be critical toward creating interventions for women before their developing a depressive episode. Figure 1 illustrates the proposed model that was tested in this study.

METHOD

Design

The study was a cross-sectional, correlational design that used survey instruments to measure stress and coping styles among nursing students.

Subjects

The sample was drawn from the population of all undergraduate and graduate nursing students from a major Midwest research university who were enrolled during a two-year period. The sample was 408 students who agreed to participate in this study. This represented a return rate of 67% from all subjects asked to participate. All students received only one request to complete the questionnaire. Those students who did not participate were, for the most part, not attending class on days data were collected.

Study subjects were remarkably similar, except for age, in their marital status, ethnic background and grade point average (GPA) (Table 1). Age varied relative to educational level with undergraduates being younger than master’s level students, who were slightly younger than the doctoral students.

Research Instruments

Hassles and uplifts scale. The Hassles and Uplifts Scale (DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982) includes items referred to as “hassles” or “uplifts.” The Hassles scale was revised to 53 items (DeLongis, 1985) from the original 117 by respondent nonendorsement and a factor analysis with oblique rotation. This resulted in an eight-factor loading with the subscale reliability coefficients ranging from 0.80 to 0.93. A Cronbach’s alpha coefficient of 0.90 was found in this current study. Potentially confounding items between hassles, psychological symptoms, and illness-related items in the original scale were removed in the revised scale.

Kanner and colleagues (1981) found that the Hassles scale was a better predictor of concurrent or subsequent symptoms related to psychological symptoms than major life events (Holmes & Rahe, 1967). Research by Monroe (1983) also found that hassles were better predictors for subsequent psychological symptoms. Kanner and colleagues (1981) showed that life events for women, unlike men, were positively related to both hassles and uplifts. For this reason, because this sample was exclusively students, questions related to the educational experience were added to the scale by the researchers. These questions (e.g., your course load, your instructors) increased the number of items to 59.

Coping styles. Jalowiec, Murphy, and Powers (1984) revised the original 40-item coping scale to include 60 items that comprise eight coping styles (Jalowiec, 1987). The instrument uses a 5-point Likert-type scale that rates how frequently subjects used coping behaviors during the previous month. Two examples of items on the scale are, “Tried to get away from the problem for a while,” and “Wanted to be alone to think things out.” Because Jalowiec (1987) had not completed a factor analysis of the scale, a revised scale was used in this

Fig 1. Proposed model for stress and coping in nursing students.
Table 1. Description of Undergraduate, Master's and Doctoral Nursing Students

<table>
<thead>
<tr>
<th>Variable</th>
<th>Undergraduate n = 283</th>
<th>Master's n = 106</th>
<th>Doctoral n = 18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>79.7%</td>
<td>32%</td>
<td>47.4%</td>
</tr>
<tr>
<td>Married</td>
<td>17.6%</td>
<td>53.8%</td>
<td>42.1%</td>
</tr>
<tr>
<td>Divorced</td>
<td>2.5%</td>
<td>14.2%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Ethnic Background</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>5%</td>
<td>1.9%</td>
<td>0%</td>
</tr>
<tr>
<td>Asian American</td>
<td>4.6%</td>
<td>9%</td>
<td>0%</td>
</tr>
<tr>
<td>Caucasian</td>
<td>87.5%</td>
<td>90.6%</td>
<td>98.9%</td>
</tr>
<tr>
<td>Other</td>
<td>2.9%</td>
<td>6.6%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Age</td>
<td>21.95 (SD = 5.18)</td>
<td>34.28 (SD = 7.56)</td>
<td>36.68 (SD = 6.13)</td>
</tr>
<tr>
<td>GPA</td>
<td>3.01 (SD = .54)*</td>
<td>3.17 (SD = 1.71)*</td>
<td>7.07 (SD = 1.46)*</td>
</tr>
</tbody>
</table>

* GPA based on a 4-point scale.
* GPA based on a 9-point scale.

The Symptoms of Stress Inventory (SOS). The SOS measures the magnitude and frequencies of physiological, behavioral, and cognitive symptoms of stress as well as changes in daily living patterns. It was adapted from the Cornell Medical Index (CMI) by Leckie and Thompson (1979) in an attempt to establish change in an individual's perceived stress response and groups that are likely to be at high risk for stress. The instrument is a self-administered checklist, which includes 94 items based upon a 5-point Likert-type scale with the responses ranging from "never" to "very frequently."

Symptoms of depression constitute one of ten subscales in the SOS. The depression subscale is eight items that include: (1) feeling alone and sad, (2) unhappy and depressed, (3) crying easily, (4) life is hopeless, (5) wished you were dead, (6) worrying gets you down, (7) tired and exhausted in the morning even with your usual amount of sleep, and (8) suffering from nervous exhaustion. In this current study the Cronbach's alpha reliability coefficient was 0.87 for the symptoms of depression subscale.

Normative data for the SOS subscales were reported by Kogan-Nakagawa (1987), which included the depression subscale mean of 10.42 (SD = 7.04) from 368 female clients who were being treated for stress in a stress management program. In addition, the test-retest correlation for the depression subscale was 0.73.

Concurrent validity was established by correlating the SOS with the Symptoms Checklist-90 (SCL-90) (Derogatis, Richels, & Rock, 1976). The SCL-90 also was based upon the CMI and includes dimensions similar to the SOS subscales. The two instruments correlated at 0.76 (p < .001) in a sample of 59 individuals (Kogan-Nakagawa, 1987).

The total SOS Inventory included seven of the nine symptoms identified in the DSM-IV (1994) used in determining the diagnosis of Major Depressive Disorder. The only items from the DSM-IV manual that were not included were: decrease in interest or pleasure and feelings of worthlessness or excessive/inappropriate guilt. The diagnosis of Major Depressive Disorder is made by using DSM-IV criteria when symptoms of either depressed mood or loss of interest or pleasure are present in addition to the presence of at least four other depressive symptoms.

The SOS asked additional questions about alcohol, drug use, coffee and cigarette consumption. These questions were measured using a Likert-type scale that assessed the frequency of their use. Questions on drugs included the variables use of prescription drugs differently from the way they were prescribed and the use of over-the-counter drugs. Variables included in questions related to habits were: use of alcohol, use of recreational drugs, coffee-tea consumed per day, and cigarettes smoked per day.

Four other items from the SOS asked female
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respondents about depression around the time of their menstrual cycle. These four items equaled a separate subscale for depression around the menstrual cycle. An example of one of these questions is: "Around the time of your period do you feel severely depressed?" The Cronbach's alpha reliability coefficient for this subscale was 0.80.

Background questionnaire. In addition to demographic questions, students were asked to rate how seriously they were considering quitting school, how stressful student life was in general and how stressed their personal life was apart from school. These items were measured on a 5-point Likert-type scale measuring intensity from "not at all" to "extremely."

Procedures

After approval from the Human Subjects Review Committee, the researchers obtained permission from instructors in the School of Nursing to approach students in classes that were attended by the majority of nursing students. Students were provided with a short description of the purpose and procedures of the study. Because of students' activities and course load, data were collected at various times during the semester. This assured that data were not collected at particularly stressful times, such as during midterm or final examination periods.

To assure human subjects consent, all students were asked to sign an informed consent. Students were informed that there were no potential risks to their physical or psychological safety. To assure confidentiality, students' identification numbers and responses were stored in a locked file and destroyed at the completion of the study. Students willing to participate were provided with a packet of survey instruments before leaving the classroom.

Analysis

Analysis of Variance (ANOVA) was conducted to examine depressive symptoms between undergraduate, master's, and doctoral students. Data also were analyzed using path analysis, a methodology used to analyze systems of structural equations. Specifically, a path is a route that follows one-way arrows without retraceing any steps (Davis, 1985). The path analysis was accomplished through a series of regression analyses calculated according to the causal order specified in the path model. The linkages (path coefficients) were used to quantify the direct and indirect effects between the different variables (Asher, 1989) by examining the causal relationships between the variables. A direct effect is the influence of the variable on another that is not mediated by any other specified variable, whereas an indirect effect is that which is mediated by at least one intervening variable. Residual analysis was performed on the multiple regressions and assumptions of equality of variances, normal distributions, linearity, violations of multicollinearity and outliers were examined. A p value of <.05 was set for statistical significance.

RESULTS

Using one-way ANOVA, no significant differences were found in symptoms of depression scores between the three groups (F = 2.21, df = 2, 403, p = NS), thus supporting Hypothesis 1. The rating of symptoms of depression for the female nursing students were not significantly different than those reported by female stress management clients (Kogan-Nakagawa, 1987) (t = 0.04, df = 406, 366, p = NS), supporting Hypothesis 2 (Table 2).

Using path analysis, 58% of the variance for symptoms of depression was explained by the model (Fig 2). The independent variables were entered into stepwise multiple regression. These included: stressor variables (stress as a student, personal stress aside from school, total hassles score, total uplifts score); coping variables (coping styles, considering quitting school, use of drugs and habits); and the biological variable (depressed mood around the menstrual cycle). Path coefficients were determined along with R² for the dependent variable, symptoms of depression. Path coefficients were obtained until all variables that were significant predictors were used in the equation.

All of the independent variables had direct effects on the dependent variable, symptoms of de-

| Table 2. Symptoms of Depression Scores of Nursing Students and Stress Management Clients |
|----------------------------------------|--------|------|
| **Sample**                             | **Mean** | **SD** |
| Nursing students (n = 408)             | 9.80    | 6.80  |
| Stress management clients (n = 368)    | 10.42   | 7.04  |
| (Kogan-Nakagawa, 1987)                 |         |       |
pression; supporting Hypothesis 3. There also were many indirect pathways from the variables on the symptoms of depression, as shown in Figure 2.

Stress experienced as a student had indirect paths through seriously considering quitting school and depression around the menstrual cycle to predict symptoms of depression, whereas personal stress had an indirect path through evasive coping style and depression around the time of the menstrual cycle. Uplifts influenced confrontive coping style to offset symptoms of depression, albeit, a small effect. Also noteworthy is that hassles had a direct path to symptoms of depression, but also had indirect paths through evasive coping style, drugs, habits, and seriously considering quitting school. Yet amongst the variables that represented coping, evasive coping style had the strongest path in predicting symptoms of depression. It is interesting to note that the biological variable (increased depression around the time of the menstrual cycle) had direct paths to symptoms of depression, but indirect paths to evasive coping style, confrontive coping style, seriously considering quitting school, and drugs.

Younger age had a direct path to symptoms of depression, but also had indirect paths to evasive coping, and depression around the time of the menstrual cycle. However, older age had indirect paths through hassles, confrontive coping, and seriously quitting school. Other curious findings were the indirect paths of uplifts through hassles and confrontive coping through evasive coping to predict symptoms of depression.

As a secondary purpose of the study, depressive symptoms that fit DSM-IV (1994) criteria for diagnosis of Major Depressive Episode were examined. Table 3 includes the items from the SOS. At least five symptoms must be present for the diagnosis of Major Depressive Episode. The percentage of nursing students who experienced five or more diagnostic criteria was 25.4%. The response categories of often and very frequently from the instrument were combined to arrive at the percentage of symptoms. The five most frequently reported symptoms and the percentage of students indicating that symptom are shown in Table 4.

**DISCUSSION**

Failure to find a difference in symptoms of depression scores among undergraduate, master's,
and doctoral students supporting Hypothesis 1, suggests that the level of the educational program of these women do not differentiate their symptoms of depression. Equally interesting is that ratings of their symptoms of depression were not significantly different from those of stress management clients, especially since stressful periods during the term, such as midterms and final examinations, were avoided in data collection procedures. This is an important area to explore in women populations, particularly for nursing students. Because an increasing number of students must work as well as attend school, their heavy and intense schedule with an often accompanying sleep deprivation could potentially increase their vulnerability to symptoms of depression. Additionally, the nature of their education, such as exposing them to life and death issues, creates many stressors that students in many other disciplines never experience.

Although at first glance the mean scores for the nursing students and comparative groups of stress management clients may not seem high, it is noteworthy that this was the second highest subscale score for the stress management clients (Kogan-Nakagawa, 1987). Therefore, the researchers argue that this finding is clinically relevant in understanding the level of depression noted in these students and the support to Hypothesis 2. This argument is further explicated in the DSM-IV criteria to follow.

Hypothesis 3 was also supported, but of the stressor variables, hassles were the strongest predictor of depressive symptoms. The more hassles these women experienced, the more likely they were to have symptoms of depression, depression around the menstrual cycle, evasive coping style, use drugs, habits, and seriously consider quitting school. This understanding could be critical for these women, because day-to-day hassles potentially may be altered. Noteworthy is the influence of stress, whether stress as a student or personal stress. Both student and personal stress had direct paths to symptoms of depression, but stress as a student had an indirect path through seriously considering quitting school, whereas personal stress had an indirect path through evasive coping style. These findings provide additional understanding to those of Brown and Harris (1978; 1986), Paykel (1982; 1991) and Monroe and Depue (1991).

A student talking about quitting school can be revealing about student stress levels. Likewise, the stress the student may be experiencing in a personal way increases evasive coping and symptoms of depression. The role of the educator in helping students talk about their hassles, stresses, and how they are coping with it all, cannot be underestimated.

Uplifts appear to have a positive effect on these women’s ability to cope and influence decreasing symptoms of depression. Consistent with Kanner and associates (1981), the influence of uplifts is less than the negative influences of hassles. Another interesting finding is the indirect path of uplifts through habits. Possibly as uplifts are experienced by students they may increase their use of alcohol as part of having a good time, which in turn, may decrease the positive effects of uplifts on symptoms of depression. A longitudinal study would need to be undertaken to determine the nature of the effect of uplifts on coping strategies. Yet, there was a path from uplifts to hassles. This may be explained by the construction of the instrument and relational aspects of the two concepts.

### Table 3. Items from the Symptoms of Stress Inventory Similar to DSM-III-R Criteria for Major Depressive Episode

| Item |  
|---|---|
| Felt alone and sad* |  
| Felt unhappy and depressed* |  
| Felt like crying easily* |  
| Felt like life is entirely hopeless* |  
| Felt that you wished you were dead* |  
| Felt that worrying gets you down* |  
| You get up tired and exhausted in the morning even with your usual amount of sleep* |  
| You suffer from severe nervous exhaustion* |  
| You experienced poor appetite |  
| You have difficulty in concentrating |  
| It seems that little things get on your nerves |  
| Difficulty sitting still |  
| Difficulty in falling asleep |  
| Difficulty in staying asleep at night |  
| Early morning awakening |  

* These items comprise the Depression subscale of the SOS.
The Hassles and Uplifts Scale requires subjects to rate an item for the level of hassle as well as uplift. Thus there will be some relationship between the two concepts because many items are both hassles and uplifts.

Regarding the coping variables, use of an evasive style of coping was an important influencing factor on symptoms of depression and the indirect path of depression around the menstrual cycle. This could be important in treating women with symptoms of depression, because a cognitive or behavioral form of therapy could assist in changing the use of this style and lessening the symptoms. Confrontive coping had the effect of decreasing depression, which suggests that reinforcing women to confront their stressors by using active problem-solving also may be useful. Another interesting finding was that confrontive coping style also had a path through evasive coping style, thus suggesting that women may be using both styles. However, evasive coping style had a stronger influence on increased levels of symptoms of depression than confrontive coping style. This is consistent with our clinical work with depressed clients, noting that they employ a more evasive style of coping as their depression increases, and is supported by other researchers (Bloor, 1983; Hamburg, 1981; Parker, Brown, & Elgin, 1986; Rohde, Tilson, Lewinsohn, & Seeley, 1990). As noted in the path model (Fig 2) possibly hassles, stress as a student, and personal stress have greater influences on a person using evasive coping, thus increasing symptoms of depression, whereas uplifts influence confrontive coping to in turn, decrease symptoms of depression. As illustrated in the path model, stressors have greater impact than uplifts on coping styles and symptoms of depression.

The use of drugs and habits such as alcohol consumption and smoking also had direct paths to symptoms of depression. These are consistent with findings of Floyd (1991) and Haack (1988). As women use these substances to possibly treat their depression, the net effect is that they may be increasing the level of depression.

Another important finding was that women who experienced higher symptoms of depression scores reported that they were more seriously considering quitting school, supporting findings of Whitney and colleagues (1971). Identifying those students who have symptoms of depression could lead to a greater support and counseling network within a university, ultimately decreasing the number of students who actually quit school. These data also may lead to an examination of nursing curricula and course loads for students who may be prone to symptoms of depression.

As a biological indicator, women who experienced depression around the time of their menstrual cycle were found to be more likely to have symptoms of depression. This is underscored because it appears to support Ellicott and Halbreich’s (1988) data that found 80% of premenstrual depressed women had a history of major depression. They also described a trend for premenstrual depressed women to develop a depressive episode later in life. However, these data are controversial because women retrospectively complain of premenstrual symptoms that cannot be confirmed by prospective charting. Depression around the menstrual cycle may be influenced by individuals themselves, since the questionnaire is self-report as opposed to a more objective measure (Hamilton, Gallant, & Lloyd, 1989). Unfortunately, there are not yet substantiated reliable and valid objective measures. Self-report for a person’s mood remains the most accepted measure used. Given that the sample was normally distributed, it can be argued that data from this study were measured at all phases of the women’s menstrual cycles. Future studies may be enhanced by including women’s actual day of the menstrual cycle to correlate with the data. Controversial as it may be, the path analysis supports the theory that there is a relationship between reported depression around the menstrual cycle and symptoms of depression. The direct and indirect paths also show the multidimensional nature of depression.

A younger age had a direct path to symptoms of depression. Younger students may be more vulnerable to symptoms of depression and depression around the menstrual cycle, which is supporting the study that age of onset of depression is becoming increasingly younger (Gershon, 1991; Kessler et al. 1994; Lewinsohn et al. 1993). Also interesting is that younger age had an indirect path to use of evasive coping, but older age had indirect paths to confrontive coping, seriously considering quitting school, and increased hassles. This may be caused by women learning wider ranging and more effective coping strategies as they get older. But because of their increased complexity of roles
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(family, employment, etc.), they have more hassles. Also, as these pressures mount, women may have to seriously consider quitting school to balance their lives.

Of particular interest is that symptoms of depression subscale actually may be under-rating the number of women experiencing symptoms of depression since it includes fewer symptoms than the DSM-IV (1994). Yet, with 25.4% of women experiencing one or more depression symptoms as listed in DSM-IV criteria, the results are troublesome. At this, major Depressive Disorder diagnosis cannot be made simply because these women marked these symptoms, as this finding does raise the need for nursing students to be referred for assessment, evaluation and possible treatment for their depression, should faculty or fellow students note these symptoms.

The study supports the need for additional research in the area of depression and its relationship to the menstrual cycle in women. The study may have unearthed new areas for study of depressed mood that may not be entirely in an individual's control. However, the path analysis findings indicate that a complex interaction exists between both psychological and biological variables. The data also raise new questions regarding the relationship between stress, gender, and the menstrual cycle.

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