



Published in final edited form as:

*J Nurs Educ.* 2018 December 01; 57(12): 751–755. doi:10.3928/01484834-20181119-09.

## Nursing Student Satisfaction With Daily Life: A Holistic Approach

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### Abstract

**Background:** Nursing school, clinical, and academic life challenges most students' satisfaction with daily life. This study sought to examine associations between undergraduate nursing students' satisfaction with daily life and body mass index (BMI), self-weight perception, and intake of 18 commonly consumed foods and beverages over the past 30 days.

**Method:** A cross-sectional, correlational, online study facilitated data collection from 215 nursing students.

**Results:** One unit increase in satisfaction with daily life predicted a modest 36% decrease in the odds of having overweight/obesity. One unit increase in satisfaction with daily life predicted a 106% increase in the odds of being in the normal weight category. Approximately 44.9% of the nursing students were in the overweight, obese, or extremely obese categories.

**Conclusion:** Healthy nutrition and normal BMI, with a positive self-weight perception, before nurses enter the workforce may have lifelong benefits. Nursing faculty can provide motivation, a supportive environment, and tools to instill a culture of health and wellness.

Nurses represent the largest health care workforce, with an estimated 2.8 million nurses working full time in the United States (U.S. Department of Health and Human Services, 2017). Research indicates that practicing nurses often have suboptimal physical and mental health indices compared with physicians and the general population (Melnyk et al., 2018; Schooley, Hikmet, Tarcan, & Yorgancioglu, 2016). A systematic review by Priano, Hong, and Chen (2018) indicated that practicing nurses have higher rates of depression, compassion fatigue, and burn-out, and exhibit less-healthy lifestyle behaviors and work-life balance. Accordingly, research focused on improving the health and satisfaction with daily life of future nurses (e.g., current nursing students) may have far-reaching implications. It is

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The authors have disclosed no potential conflicts of interest, financial or otherwise.

critical for nursing students to form a healthy foundation of self-care before beginning the profession of nursing (Mellor, Gregoric, & Gillham, 2017).

There are limited U.S. studies that focus on nursing students' physical and mental health and overall satisfaction with daily life (Ashcraft & Gatto, 2015; Nevins & Sherman, 2016). However, studies from other countries suggest that nursing students are at risk for weight gain and obesity due to poor diet, lack of exercise, stress, and difficulty balancing the rigor of nursing school with other activities (Al-Kandari, Vidal, & Thomas, 2008; Blake, Stanulewicz, & Griffiths, 2017; Chan, 2014; Evagelou et al., 2014; FitzGerald, 2015; Hawker, 2012; Kara & Iscan, 2016; Klainin-Yobas, He, & Lau, 2015; Mearns, Chepulis, Britnell, & Skinner, 2017; Park, Choi-Kwon, & Han, 2015). Investigations have typically focused on physical health or mental health separately, despite indications that these issues are often found together in college-aged students (Lang et al., 2018; Stark, Hoekstra, Hazel, & Barton, 2012).

The purpose of the current study was to add to the nursing literature by examining associations between nursing student satisfaction with daily life, self-weight perception, body mass index (BMI), and intake of 18 commonly consumed foods and beverages over the previous 30 days. Covariates examined statistically were race and gender. The research questions (RQ) were the following: (RQ1) After controlling for race and gender, does satisfaction with daily life affect variation in BMI in undergraduate nursing students? (RQ2) After controlling for race and gender, does satisfaction with daily life affect variation in self-weight perception in undergraduate nursing students? (RQ3) After controlling for race and gender, does undergraduate nursing student satisfaction with daily life affect variation in intake of 18 commonly consumed foods and beverages in the past 30 days?

## Method

### Design, Sample, and Procedures

After institutional review board approval, a cross-sectional, correlational study was conducted in fall 2017. Participants were provided class time to complete an online anonymous survey hosted through Qualtrics®. The sample consisted of undergraduate nursing students ( $N = 215$ ) at a midsized university on the southern gulf coast of the United States. Most participants were female (92.2%), were White (71.6%), lived on campus (54.3%), had an on-campus meal plan (59.4%), and did not work (62.6%). Freshmen (68.1%), sophomores (1.3%), juniors (11.6%), and seniors (19%) participated, and ages ranged from 18 to 50 years.

### Measures

**Satisfaction With Daily Life.**—The main instrument for the current study was designed to assess students' satisfaction with daily life. This instrument was originally designed by a faculty member at Eastern Tennessee State University, as part of a larger survey entitled The BUCS: Live Well Survey (BUCS: Live Well). This survey evaluated college students' health-related attitudes, perceptions, and behaviors. Initial validity of the BUCS: Live Well survey was established by Lee and her team of graduate students through development and

refinement of items (McKinney, Lee, Cress, & Lowe, 2013). Additionally, the survey demonstrated that scores were able to detect changes in health and well-being behaviors over time. The BUCS: Live Well was also used in a theses study entitled “Assessment of Dietary Behaviors of College Students Participating in Health Promotion Program BUCS: Live Well” (McKinney et al., 2013). Satisfaction with daily life was measured with seven items, a subscale within the BUCS: Live Well survey that assessed the following: personal mood/emotion, self-esteem, confidence/self-assurance, energy and sense of health, personal appearance, physical mobility and activity, and overall quality of life. Each item was scored on a 5-point Likert-type scale ranging from 1 (*very dissatisfied*) to 5 (*very satisfied*). All scores were summed and divided by seven for one total satisfaction with daily life score. The internal consistency coefficient alpha of this cumulative score for the current study was excellent ( $\alpha = .92$ ).

**Self-Weight Perceptions.**—This next item, also from the BUCS: Live Well survey, assessed students’ self-perception of weight. Participants were asked to describe their weight by selecting one of the following categories: *underweight*, *slightly underweight*, *about the right weight*, *slightly overweight*, or *very overweight*. Although all items from the survey were initially screened and refined for content validity, reliability analysis was not collected in the initial validation study nor in the current study, because it was only one question.

**BMI.**—Body mass index was calculated from self-reported height and weight (Centers for Disease Control and Prevention, 2017).

**Nutritional Intake Behaviors.**—The final set of questions also drawn from the BUCS: Live Well survey assessed intake of 18 commonly consumed foods or beverages over the past 30 days. Participants were instructed to indicate the frequency with which they consumed a detailed list of items (Table 1). The following anchors were used: *daily*, *four to six times per week*, *one to three times per week*, *once a month*, *never*, and *not sure*. The Cronbach’s alpha for these items in the current study was .72.

## Analysis Plan

Descriptive analysis, correlations, and multiple regression were conducted to determine how the BUCS: Live Well survey (i.e., satisfaction with daily life) predicted variation in indicators of health and well-being (e.g., BMI, self-weight perceptions, and intake of 18 commonly consumed foods and beverages in the past 30 days). Specifically, linear regressions were used when examining the associations between the BUCS: Live Well satisfaction with daily life items and various continuous variables. Likewise, logistic regressions (binary or multinomial) were conducted when examining the associations between satisfaction with daily life and various categorical variables. For each of these analyses, the researchers controlled for available demographic variables that may be confounded with health and well-being (i.e., race and gender). Finally, using structural equation modeling path analysis, satisfaction with daily life and how this affected variation in the nursing students’ intake frequency of 18 commonly consumed foods and beverages over the past 30 days were evaluated. The observed independent variable was used to account for potential covariation among each dependent variable (i.e., type of food or

beverage consumed). Because the dependent variables of consuming 18 different foods and beverages were ordinal in nature, a weighted least squares estimator with means and variance adjustments was used. The model was fully saturated (i.e., no degree of freedom); therefore, fit indices traditionally associated with structural equation modeling (Kline, 2016) were not calculated.

## Results

Prior to conducting the primary analyses, data were screened for missing values, univariate outliers, and assumptions of normality. The percent of cases with missing data and/or univariate outliers was minimal (less than 4% of the sample) for all BUCS: Live Well items, and thus pairwise deletion was used to handle missing values for each primary analysis. Univariate outliers were not removed or transformed. Several participants ( $n = 54$ ) did not enter either height or weight information, and thus these cases were removed for any BMI analyses.

### BMI Categories

Approximately half of all students were in the normal weight range (52.8%); however, 44.9% of the students were either in the overweight (20.8%), obese (21.9%), or extremely obese (2.2%) BMI categories. In Table 2, a logistic regression revealed that the odds of being classified in either the obese/overweight or normal weight categories significantly changed per unit-increase in satisfaction with daily life after controlling for the fact that White students were about half as likely to be classified in the overweight/obese category compared with racial minority students. The model was significant,  $X^2(3) = 16.39, p < .001$ , correctly classifying 62% of the sample and accounting for approximately 10% (Nagelkerke pseudo  $r^2$ ) of the variation in BMI classification. Wald tests indicated that a one-unit increase in satisfaction with daily life predicted a modest (36%) decrease in the odds of having overweight/obesity.

**Self-Weight Perception.**—Table 2 also presents the results of a multinomial logistic analysis regressing self-weight classification (recoded into three categories to ensure adequate participants at each level identifying as either *underweight*, *about the right weight*, or *overweight* classifications on satisfaction with daily life. The overweight classification was used as the reference category. After controlling for race and gender, the model was significant,  $X^2(6) = 27.96, p < .001$ , accounting for approximately 14% (Nagelkerke pseudo  $r^2$ ) of the variation in self-weight perception classification. A one-unit increase in satisfaction with daily life predicted a 106% increase in the odds of being in the *about the right weight* category and an 89% increase in the odds of being in the *underweight* category.

**Nutritional Intake of 18 Commonly Consumed Foods or Beverages.**—Table 1 displays the reported frequency of 18 commonly consumed types of foods and beverages consumed during the previous 30 days. After examining the descriptive data of the 18 different foods, a structural equation modeling path model regressing all 18 different nutritional intake frequencies simultaneously on satisfaction with daily life indicated that only three of the 18 regression paths were statistically significant. Specifically, because

higher scores indicated less frequent consumption, higher levels of satisfaction with daily life were modestly associated with lower consumption of energy drinks ( $B = .20$ ,  $SE = .07$ ,  $\beta = .19$ ,  $p = .006$ ) and alcohol ( $B = .21$ ,  $SE = .07$ ,  $\beta = .20$ ,  $p = .003$ ). Interestingly, higher satisfaction of daily life was also weakly associated with greater consumption of potato chips ( $B = -.17$ ,  $SE = .07$ ,  $\beta = -.16$ ,  $p = .02$ ).

## Discussion

In the current study, 44.9% of prenursing and undergraduate nursing students had BMIs in the overweight, obese, or extremely obese categories. The prevalence of obesity in the United States from 2011 to 2014 was approximately 36.5% (Ogden, Carroll, Fryar, & Flegal, 2015). Findings from the current study were compared with the overall percentage of obesity in the state where this study was conducted. For adults aged 18 to 25 years, the obesity rate was 22.6%. The rate increased to 38.2% for adults aged 26 to 44 years, and 42.1% for adults aged 45 to 64 years (Robert Wood Johnson Foundation, 2017). When reviewing a study from a historically Black college and university, the results were also 44.9% prevalence of nursing students who have overweight/obesity ( $n = 49$ ) (Singleton, Bienemy, Hutchinson, Dellinger, & Rami, 2011). In the United Kingdom, researchers found that in pre-RNs ( $N = 493$ ), 28% had overweight/obesity (Blake et al., 2017). In contrast, another U.S. study examined BMI and predictors of low back pain by comparing nursing students ( $n = 73$ ) to physical therapy ( $n = 87$ ) and engineering students ( $n = 54$ ). The mean BMI was 22.6 ( $SD = 3.50$ ) in nursing students. In physical therapy students, the mean BMI was 24.3 ( $SD = 3.20$ ). In engineering students, the mean BMI was 24.7 ( $SD = 3.86$ ). Interestingly, researchers noted that a predictor of low back pain was a BMI  $> 25\text{kg/m}^2$  (Solomon, Wilson, Meyer, & Sharma, 2017). The American College of Cardiology/American Heart Association Task Force on Practice Guidelines and the Obesity Society (Jensen et al., 2014) suggested that obesity increases the risk of health concerns such as diabetes, coronary heart disease, stroke, sleep apnea, and osteoarthritis among many other complications. Obesity in practicing nurses can affect their own health status and their ability to care for others (Melnik et al., 2018). Therefore, preventing weight gain during nursing school could decrease the risk of obesity in the future (Malhotra, Ostbye, Riley, & Finkelstein, 2013).

Findings from RQ1 revealed that nursing students with lower BMI have higher satisfaction with daily life scores. Similarly, in a study examining mental health and physical activity in nursing students, Hawker (2012) found that increased BMI was negatively correlated with satisfaction with life. RQ2 also revealed that students who perceived they are in the *about right* category or the *underweight* category compared with the *overweight* category have greater odds of being more satisfied with life. With these findings in mind, the American Nurses Association declared 2017 to be the Year of the Healthy Nurse (American Nurses Association, 2017). The American Nurses Association's desire is for nurses to actively focus on a balance of physical, intellectual, emotional, social, spiritual, personal, and professional well-being. Furthermore, nurses who practice self-care behaviors are positioned to be positive role models, teachers, and advocates for their patients. RQ3 revealed that students who consumed less alcohol and fewer energy drinks had higher scores on satisfaction with daily life. Consuming alcohol is a common way of relieving stress in many college students

across the world (Peltzer & Pengpid, 2016). Nursing students are no exception to experiencing stress when in school and often consume alcohol to relax and energy drinks to stay awake. Targeted education should include (a) the dangers of increasing alcohol to decrease stress (Lac & Brack, 2018) and (b) the dangers of using energy drinks to increase alertness (Patrick, Griffin, Huntley, & Maggs, 2018).

## Limitations and Future Research

Findings must be viewed with caution and may vary in other areas of the United States. This study only included one population of prenursing and nursing students at one university setting in the southern United States in the fall semester of 2017. Additionally, the majority of participants were in the prenursing program (68.1%). With this in mind, the freshmen students in their first semester of college may not be facing the same level of academic stress as the sophomore-, junior-, or senior-level students, where the curriculum becomes more intense with indepth learning of nursing knowledge and clinical skills. It is well documented that as students complete their first year of college, gaining weight and eating foods that are not as healthy is common on college campuses. Students may enter college at the age of 18 or 19 with a BMI in the normal range, but unfortunately students often leave college at the age of 21 or older in the overweight or obese range, putting them at risk for health problems (Yahia et al., 2017). Although the data collected were anonymous, this study was based on self-report from students. Students had the option of not completing the online survey, but given that they were asked by their faculty member and given time to complete the survey in class, some may have felt uncomfortable leaving class without completing the survey.

## Conclusion

To create a culture of wellness in nursing school, it is important to help nursing students improve their daily habits, such as decreasing the amount of unhealthy food and beverages consumed (i.e. alcohol, energy drinks, chips), increasing exercise and activity, and taking time for self-care. Nursing students must be able to incorporate these changes in their own environment, even with a hectic and stressful life. Faculty can help provide the necessary tools through knowledge, activities, and a motivating, supportive atmosphere for future nurses to successfully practice a healthy lifestyle (Amin & Johnson, 2014).

## Acknowledgments

Funding was obtained from the National Institute on Minority Health and Health Disparities (P20MD002314).

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Self-Reported Intake of 18 Commonly Consumed Foods and Drinks in Past 30 Days

TABLE 1

| Food/Drink Intake              | Mean | SD   | Daily (%) | 4-6 Per Week (%) | 1-3 Per Week (%) | Once Per Month (%) | Never (%) | Not Sure (%) |
|--------------------------------|------|------|-----------|------------------|------------------|--------------------|-----------|--------------|
| <b>Regular soda</b>            | 3.41 | 1.4  | 13.1      | 9.6              | 28.4             | 23.1               | 23.6      | 2.2          |
| Diet soda                      | 4.63 | .911 | 2.2       | 2.6              | 6.6              | 9.2                | 77.3      | 2.2          |
| <b>Sweet tea</b>               | 3.63 | 1.31 | 8.2       | 11.3             | 27.7             | 15.6               | 36.8      | 0.4          |
| Unsweet tea                    | 3.9  | 6.1  | 0         | 3.9              | 6.1              | 6.6                | 79.9      | 3.5          |
| <b>Energy drinks</b>           | 4.12 | 1.67 | 6.9       | 4.8              | 16.5             | 15.6               | 53.7      | 2.6          |
| <b>Alcohol</b>                 | 4.07 | 1.02 | 0.9       | 5.2              | 24.2             | 28.1               | 38.5      | 3            |
| <b>Fruit juice</b>             | 3.04 | 1.30 | 13.9      | 17.7             | 36.6             | 17.3               | 10.4      | 3.9          |
| Salad                          | 3.15 | 1.13 | 7.8       | 16.5             | 44.6             | 17.3               | 12.1      | 1.7          |
| Vegetables                     | 2.71 | 1.05 | 12.6      | 27.8             | 42.6             | 10                 | 6.5       | 0.4          |
| <b>French fries</b>            | 2.98 | 1.01 | 7.5       | 20.3             | 46.3             | 20.7               | 3.5       | 1.8          |
| <b>Potato chips</b>            | 3.55 | 1.16 | 4.8       | 12.6             | 30.7             | 29                 | 20.8      | 2.2          |
| <b>Baked crackers</b>          | 3.96 | 1.12 | 2.2       | 6.5              | 27.4             | 24.8               | 35.2      | 3.9          |
| Baked chips                    | 3.94 | 1.14 | 3         | 8.2              | 22.9             | 26                 | 37.7      | 2.2          |
| <b>White bread</b>             | 3.72 | 1.19 | 4.3       | 9.5              | 31.2             | 22.1               | 30.3      | 2.6          |
| Whole grain bread              | 4.07 | 1.12 | 5.2       | 15.2             | 34.8             | 18.7               | 22.2      | 3.9          |
| <b>White pasta</b>             | 3.66 | 1.12 | 2.2       | 10.9             | 35.4             | 25.8               | 22.3      | 3.5          |
| Whole grain pasta              | 4.07 | 1.13 | 2.2       | 4.8              | 27.8             | 18.7               | 41.7      | 4.8          |
| <b>Cookies, candy, dessert</b> | 2.90 | 1.04 | 9.1       | 23.7             | 41.8             | 18.1               | 6.5       | 0.4          |

<sup>a</sup> Bolded words are high in sugar and/or high in fat.

**TABLE 2**  
 Logistic Regression Models for BMI, Personal Weight Classification, and Trying to Lose Weight<sup>a</sup>

|   | <i>B</i> | <i>SE</i> | <i>df</i> | <i>p</i> | <i>Exp(B)</i> | Upper CI | Lower CI | Overall Classification Accuracy (%) |
|---|----------|-----------|-----------|----------|---------------|----------|----------|-------------------------------------|
| BMI   |          |           |           |          |               |          |          | 62.1                                |
| Race  | -0.902   | .329      | 1         | .006     | 0.406         | 0.773    | 0.213    |                                     |
| Gender  | -0.737   | .583      | 1         | .206     | 0.479         | 1.5      | 0.153    |                                     |
| Satisfaction with daily life                        | -0.450   | .154      | 1         | .004     | 0.638         | 0.863    | 0.471    |                                     |
| Self-weight classification (underweight)            |          |           |           |          |               |          |          | 60.4                                |
| Race  | -1.03    | .613      | 1         | .093     | 0.357         | 1.185    | 0.107    |                                     |
| Gender  | 0.622    | .879      | 1         | .479     | 1.86          | 10.443   | 0.332    |                                     |
| Satisfaction with daily life                        | 0.637    | .279      | 1         | .023     | 1.89          | 3.267    | 1.094    |                                     |
| Self-weight classification (about the right weight) |          |           |           |          |               |          |          | 74.8                                |
| Race  | 0.408    | .213      | 1         | .007     | 0.408         | 0.781    | 0.213    |                                     |
| Gender  | 0.362    | .538      | 1         | .534     | 1.436         | 4.499    | 0.459    |                                     |
| Satisfaction with daily life                        | 0.716    | .163      | 1         | .000     | 2.06          | 2.814    | 1.487    |                                     |

Note. BMI = body mass index; CI = confidence interval.

<sup>a</sup>The reference category for self-weight classification was overweight. Race was coded as 1 = majority and 0 = minority; gender was coded as 1 = male and 0 = female. N = 178 for BMI analyses; N = 232 for all other analyses.