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THE RELATIONSHIPS AMONG LONELINESS, SLEEP QUALITY, AND ACADEMIC PERFORMANCE IN UNIVERSITY STUDENTS

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THE RELATIONSHIPS AMONG LONELINESS,

SLEEP QUALITY, AND ACADEMIC

PERFORMANCE IN UNIVERSITY

STUDENTS

by

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ABSTRACT

THE RELATIONSHIPS AMONG LONELINESS,

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PERFORMANCE IN UNIVERSITY

STUDENTS

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The University of Texas at Arlington, 2015

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The purpose of this study was to examine the relationships among loneliness, sleep quality, and academic performance in university students to determine if sleep quality and academic performance are predictors of high levels of loneliness, which is an indicator of depression. A total of 106 students were surveyed, 10 graduate and 96 undergraduate. The UCLA Loneliness Scale Version 3 was used to determine perceived loneliness by having participants respond to 14 statements. An example statement was "I am part of a group of friends." If participants answered "Always" their score for this response would be one, while a response of "Never" would be a score of four. Higher scores were correlated with higher levels of loneliness. The Pittsburgh Sleep Quality Index measured sleep quality by measuring seven components of sleep such as subjective

sleep quality, sleep duration, and sleep disturbance. An example question was "In the past month, how would you rate your overall sleep quality?" A response of "Very good" would be a score of zero while a response of "Very bad" would be a score of three. Higher scores were correlated with poorer sleep qualities. Academic performance was based on self-reported grade point average (GPA).

No significant correlations were found between loneliness and GPA or loneliness and sleep quality. Thus GPA and sleep quality were not indicators for loneliness (and therefore depression). Consequently, rather than depending on external indicators like GPA and sleep quality, all university students should be screened for high levels of loneliness so that action can be taken to either prevent depression or treat existing depression.

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CHAPTER 1

INTRODUCTION

1.1 Loneliness and Depression in University Students

Loneliness and depression are alarmingly prevalent in today's society. This is especially true of university campuses, where up to 60% of students experience loneliness (Özdemir, & Tuncay, 2008) and 30% of students have admitted to "feeling so depressed that it was difficult to function" (American College Health Association-National College Health Assessment II: Reference Group Executive Summary Fall 2012, 2013). Table 1.1 from the ACHA assessment provides additional detail. Universities are supposed to be places of safety and learning; however, many students are not finding that to be the case. If students are constantly battling negative emotions, learning may decline and the purpose of attending university is lost.

Table 1.1: University Students Who Had Difficulty Functioning Due to Depression

Difficulty functioning due to feeling depressed	Male (%)	Female (%)	Total (%)
No, Never	53.0	46.0	48.3
No, not last 12 months	20.9	22.9	22.2
Yes, last 2 weeks	8.6	9.8	9.5
Yes, last 30 days	5.1	5.9	5.6
Yes, in last 12 months	12.5	15.4	14.4
Any time within the last 12 months	26.1	31.1	29.5

1.1.1 Relationship between Loneliness and Depression

Loneliness has not only been strongly correlated with depression but it has also

been shown to be a significant indicator of it (Cacioppo, Hughes, Waite, Hawkley, & Thisted, 2006). While they are strongly correlated, research demonstrates that they are two different constructs. Weiss described it thus: "In loneliness there is a drive to rid oneself of one's distress by integrating a new relationship; in depression there is instead a surrender to it" (1973, p. 15). Even though the two concepts are closely linked, it is possible to collect data specific to each.

<u>1.2 Importance of Education and Prevention</u>

Primary prevention is a more effective method of dealing with health issues as opposed to tertiary prevention which aims to treat an already existing condition. In this case, preventing loneliness and depression would decrease the likelihood of poor academic performance. Loneliness has been positively correlated with drop out rates in college (Rotenberg & Morrison, 1993) while depression has been associated with worse academic performance (Eisenberg et al., 2007). If rates of loneliness and depression can be decreased then these issues should become less prevalent as well. More serious consequences such as self-harm and suicide are also caused by untreated depression. By offering more substantial education on the issues of loneliness and depression these unfortunate results are more likely to be prevented. Focusing on loneliness will not completely prevent issues such as depression, poor academic performance, and university attrition. However, it is likely to decrease the prevalence of these issues, which is an important first step.

1.2.1. Barriers to Appropriate Treatment

Unfortunately, there is still a large stigma placed upon mental health issues and seeking treatment is often seen as something shameful. Perceived public stigma as well as personal stigma are the two main reasons that university students do not utilize available

resources for their mental health (Eisenberg, Downs, Golberstein, & Zivin, 2009b). Perceived public stigma also carries a greater weight regarding students' decision making with regard to seeking help for their mental health (Eisenberg et al., 2009a).

CHAPTER 2

LITERATURE REVIEW

2.1 The Impact of Loneliness

Loneliness has been extensively researched in order to understand what effect it has on various aspects of human life. While the entirety of its influence is still unknown, research has made it clear that almost every part of a person's life is impacted if that person suffers from high levels of loneliness. Overall health status, sleep quality, and academic performance were the three factors focused on in this study.

2.1.1 Loneliness and Health

Several studies have confirmed that higher levels of loneliness are correlated with poor health outcomes and increased health problems (Hawkley, Thisted, Masi, Cacioppo, 2010; Jaremka et al., 2013; Segrin & Domschke, 2011). According to these studies, lonelier people have increased health problems such as higher blood pressure, greater rates of depression, and more functional limitations than those who identified with lower levels of loneliness. In a study completed by Luo, Hawkley, Waite, and Cacioppo (2012) among adults older than 50 years old, participants who had increased levels of loneliness were 1.96 times more likely to die within six years than those with lower levels of loneliness. Even when health behaviors of lonely and non-lonely people were the same, lonely people were reported as having poorer health outcomes (Cacioppo et al., 2002b). Time and again studies have shown that higher loneliness is a predictor for, and even a cause of, poorer health.

2.1.1.1 Health and Academic Performance

Another study determined that poor health conditions such as obesity were associated with lower academic achievement in adolescents (Ding, et al., 2009). Another study that dealt with school-age adolescents found that increasing healthy behaviors such as consistent exercise improved not only overall health but also academic performance (Holla et al., 2010). While this author was not able to find any research correlating university students' health and academic performance it is worth noting that poorer health has been linked to worse academic performance.

2.1.2 Loneliness and Sleep Quality

The effect that loneliness has on sleep quality has also been studied several times. However, it is still unclear as to whether loneliness and sleep quality have a circular or uni directional relationship. Kurina et al. (2011) showed that for each unit increase in loneliness there was an 8% rise in sleep fragmentation. Another study found that loneliness also causes less restorative sleep and daytime dysfunction but that less restorative sleep and daytime dysfunction, in turn, cause higher levels of loneliness (Hawkley & Cacioppo, 2013). However, according to Hawkley, Preacher, and Cacioppo (2010) increased loneliness does not impact sleep duration, so a possible conclusion is that higher loneliness causes poorer sleep quality. Two more studies by Cacioppo et al. (2002a; 2002b) found that lonely individuals had poorer sleep quality than non-lonely individuals.

2.1.2.1 Sleep Quality and Academic Performance

Further research among university students has shown that participants who received non-restorative sleep performed worse academically when compared to participants who had restorative sleep (Ratner, 2008). In two studies involving adolescents,

sleep quality was positively related to academic performance, while daytime sleepiness was inversely related (Dewald, Meijer, Oort, Kerkhof, & Bögels, 2010; Curcio, Ferrara, & Degennaro, 2006). However, a study by Howell et al. (2004) indicated that sleep quality did not correlate with grade point average (GPA).

2.1.3 Loneliness and Academic Performance

It seems that little research has been done on the direct effect that loneliness has on academic performance. One main research finding by Nicpon et al. (2006) suggests that loneliness is not related to GPA in university students. However, even though the research is limited, it can be hypothesized that loneliness has an indirect effect on academic performance through sleep quality and health (Figure 2.1). Loneliness causes poorer health, and poorer health conditions have been linked to worse academic performance. Loneliness can cause diminished sleep quality, even if the relationship is circular and not uni directional; and diminished sleep quality has been shown to decrease academic performance (Figure 2.2).

Figure 2.1: Relationship between Loneliness, Health, and Academic Performance

Figure 2.2: Relationship between Loneliness, Sleep Quality, and Academic Performance
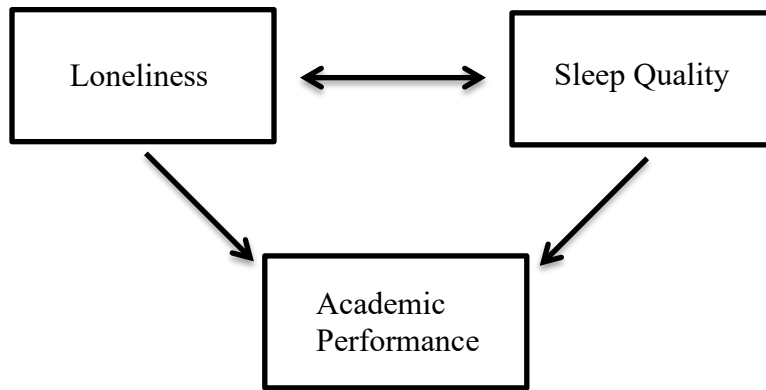
CHAPTER 3

RESEARCH PROBLEM AND STUDY PURPOSE

3.1 Research Question

Previous academic performance, ease of transition, self-esteem, and social support have all been identified as affecting the academic performance of university students. Academic performance has been correlated with loneliness and shown to be inversely related (Ponzetti, Jr. & Cate, 1981). The relationship between academic performance and sleep quality has also been studied (Ratner, 2008). However, no research has been published to date on the relationships among these three factors. Naturally, the question that arises and needs answering is "What are the relationships among loneliness, academic performance, and sleep quality?" Personal and demographic characteristics such as race, employment responsibilities, and housing arrangements need to also be examined for their influence on loneliness, academic performance, and sleep quality.

3.2 Significance of Research

Studying how loneliness, academic performance, and sleep quality relate may benefit current students and also future students. As stated above, loneliness is directly related to depression. According to Eisenberg et al. (2009b), depression is a significant predictor for lower academic performance, and there is a higher rate of attrition for university students who report feeling depressed compared with their non-depressed counterparts. The rate of depression among students attending a university has been reported to be as high as 30% (Ibrahim et al., 2013). With further research, the influence

of loneliness and sleep quality on academic performance can be better understood, and progress may be made on prevention and early detection of problems such as high levels of loneliness and impaired sleep quality, consequently decreasing the likelihood any future issues such as poor academic performance, depression, and attrition.

CHAPTER 4

METHODOLOGY

The concepts of sleep quality, loneliness, and academic performance were studied using a descriptive research design (Burns & Grove, 2011). Participants self-reported by completing an online survey on the Qualtrics website. Students were made aware of the survey through traditional word of mouth communication, including face-to-face interaction, personal emails, text messages, and Facebook. Participants were fully briefed that their participation was completely voluntary and that they would not be penalized in any way if they chose not to participate.

Descriptive statistics were used to describe the overall sample. Data analysis was also completed in order to evaluate the relationships among the three main variables – loneliness, sleep quality, and academic performance. Parametric and nonparametric statistics were used in order to gain insight into correlations.

4.1 Measuring Loneliness

Loneliness was measured using the UCLA Loneliness Scale (Version 3). This is comprised of 14 questions with the answers consisting of a 4-point Likert scale with scores ranging from 14 to 56. Higher scores indicate higher degrees of perceived loneliness in the participant. An example is "How often do you feel that you lack companionship?" and the answers being either "Never," "Rarely," "Sometimes," or "Always." "Never" is 1 point, "Rarely" 2 points, "Sometimes" 3 points, and "Always" 4 points. Questions are worded in negative as well as positive ways in order to inhibit the wording from skewing the results.

In order to keep scoring accurate, positively worded questions are scored in reverse with "Never" being 4 points, "Rarely" 3 points, "Sometimes" 2 points, and "Always" 1 point. This scale has high consistency with a Cronbach's α of 0.93. There is also a positive test-retest reliability of r=0.73.

4.2 Measuring Sleep Quality

Sleep quality was measured using the Pittsburgh Sleep Quality Index which includes 13 questions that participants answer using different ranking scales. This scale measures seven different components including subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbance, use of sleeping medication, and daytime functioning. Scores vary from 0 to 39 with higher scores indicating poorer sleep quality in the participant. An example is "During the past month, how would you rate your overall sleep quality?", and the choice are "0-Very good," "1-Fairly good," "2-Fairly bad," and "3-Very bad." Assessing several different components of the students' sleep allowed an overall look at sleep quality as opposed to just focusing on a certain aspect such as sleep duration. The scale has been shown to have good reliability with a Cronbach's α of 0.69 as well as test-retest reliability of r=0.87.

4.3 Measuring Academic Performance

In this study, academic performance was measured using a 4-point scale GPA as reported by the participant. Participants were asked to self-report their GPA to one decimal point (such as 3.2).

4.4 Other Factors Surveyed

Other demographics surveyed included race, age, and current year in university. Additional factors examined included housing arrangements and proximity to the

university campus, and other responsibilities such as employment, volunteer work, or caring for dependents (and the number of hours per week). This helped control for any confounding factors in the relationships among loneliness, sleep quality, and academic performance.

CHAPTER 5

RESULTS

5.1 General Demographics

General demographics and information were collected in order to identify what type of students participated. Certain factors such as commute time and year in school were gathered in case these were confounding factors that could skew the data. A total of 106 students participated in the survey, with approximately 9% graduate students and 91% undergraduate students. Nearly 7% were international students with the remaining 93% comprising of non-international students. This is similar to the University of Texas at Arlington's international population at 11% ("Fast Facts," 2014). The mean age was 24.3 years (σ=5.742; range 18-46). White/Caucasian students encompassed over half of the participants at 55% while Hispanics/Latinos were the second largest segment of the sample (Table 5.1). This is somewhat similar to the University of Texas at Arlington's student demographic which is 42% White/Caucasian, 22% Hispanic/Latino, 15% Black/African American, and 10% Asian/Pacific Islander ("Fast Facts," 2014).

Table 5.1: Ethnicity and Race of Students Surveyed

Ethnicity and Race	Frequency (out of 106)	Percent (%)
American Indian or Alaska Native	0	0.0
Asian or Pacific Islander	16	15.1
Black or African American	7	6.6
Hispanic or Latino	17	16.0
White or Caucasian	58	54.7
No Response	8	7.5

Approximately half (51%) of the students surveyed were in their third or fourth year of school while 28% were in their first or second year. The remaining 20% had been in school for five or more years. The overwhelming majority of students (~91%) lived in either an apartment or a house. About 9% of students lived in a university residence hall and only 1% of students were living in something other than these housing arrangements. The commute time was more varied with 23% of students being within 5 minutes of campus, 39% being 5-15 minutes away, 19% being 16-30 minutes away, 11% being 31-45 minutes away, and 9% being over 45 minutes from campus. The majority of students had obligations other than school, with the main one being work (76%). Students were asked to select all obligations that they had, so overlap is probable (Table 5.2). The number of hours that these obligations consumed varied, with approximately half of students working fewer than 20 hours per week (Table 5.3).

Table 5.2: Student Obligations Other Than School

Obligation	Frequency (out of 106)	Percent (%)
Family	55	51.9
Work	81	76.4
Volunteer	30	28.3
Other	17	16.0

Table 5.3: Number of Hours per Week for Non-School Obligations

Hours Per Week	Frequency	Percent (%)
Less than 10	20	18.9
11-20	34	32.1
21-30	24	22.6
31-40	13	12.3
More than 40	15	14.2

5.2 Description of Variables and Instrument Performance

Prior to analyzing the data for relationships, the normality of the data was checked

to ensure that the assumptions of parametric statistics were met. The skewness and kurtosis analysis revealed that the data were normal (Table 5.4) and Pearson's correlation was the appropriate test.

Table 5.4: Skewness and Kurtosis Levels of Total Data

	Skewness Standard Error	Kurtosis Standard Error
Loneliness 1	.236	.467
Loneliness 2	.236	.467
Total Loneliness	.237	.469
Sleep Quality	.236	.467

5.2.1 Description of Loneliness, Sleep Quality, and Academic Performance

Table 5.5 presents a brief description of how each variable was measured along with the reliability for each tool used. The possible and actual ranges for each instrument are included along with the mean and standard deviation for each variable.

Table 5.5: Description of Study Variables and Instrument Performance

Variable	Tools	Reliability (Cronbach's alpha)	Possible range	Actual range	Mean (SD)
Loneliness	UCLA Loneliness Scale (Version 3)	.900	14-56	14-56	27.16 (6.93)
Sleep Quality	Pittsburg Sleep Quality Index	.703	0-39	0-39	12.19 (4.06)
Academic Performance	Self-Reported GPA	NA	0.0-4.0	1.9-4.0	3.46 (0.39)

5.3.1 Loneliness and Sleep Quality

No significant relationship was found between loneliness and sleep quality. Due to the lack of significance in the study, loneliness and sleep quality changes appear to have no effect on each other.

Table 5.6: Correlation for Loneliness and Sleep Quality

Correlation	Loneliness and Sleep Quality	Interpretation
Pearson Correlation	.045 (p=.652)	No correlation

5.3.2 Loneliness and Academic Performance

Loneliness and academic performance were found to have no correlation in this study. These results indicate that in this sample, loneliness and academic performance do not have any measurable effect on each other.

Table 5.7: Correlations for Loneliness and Academic Performance

Correlation	Loneliness and Academic Performance	Interpretation
Pearson Correlation	-.001(p=.995)	No correlation

5.3.3 Sleep Quality and Academic Performance

Sleep quality and academic performance were found to have no correlation. These results indicate that according to these data, changes in sleep quality or academic performance have no measurable effect on each other.

Table 5.8: Correlations for Sleep Quality and Academic Performance

Correlations	Sleep Quality and Academic Performance	Interpretation
Pearson Correlation	-.059(p=.551)	No correlation

<u>5.4 Miscellaneous Factors with Significant Relationships</u>

While the main factors of loneliness, sleep quality, and academic performance were not significantly correlated, academic performance and age were. It was found that as age increased, so did academic performance. These were the only factors that were strongly correlated in any way in this study.

5.4.1 Academic Performance and Age

The mean age was 24.3 years with a standard deviation of 5.742. As reported in Table 5.9, the mean GPA was 3.46 with a standard deviation of .39. The Pearson Correlation test indicates a weak positive correlation. According to these results, age and academic performance are related such that as one increases, the other tends to increase as well. Cause-and-effect is not clear, but it appears that a change in one slightly affects the other.

Table 5.9: Correlations for Academic Performance and Age

Correlations	Academic Performance and Age	Interpretation
Pearson Correlation	.243 (p=.029)*	Weak Correlation

CHAPTER 6

CONCLUSION

6.1 Limitations of the Study

A main limitation for this study is that the student population surveyed was not random and this might not represent all undergraduate students. The subjects were reached through word-of-mouth communication and not through official university means, so only a small number of university students were contacted. Another limitation is that gender and the degree of study were not included in the survey. Therefore, gender differences or variances between majors were not examined and remain unknown. Further studies should not only look for gender and degree of study differences but also aim to study a random population of university students.

6.2 Implications and Recommended Actions

According to this study, sleep quality and academic performance cannot be used as external indicators for loneliness. As such, universities should screen all students for high levels of loneliness, not merely the ones who are falling asleep in class or have failing grades. Although it would be unreasonable to expect 100% screening all the time, it is reasonable to implement certain safeguards. Certain activities are mandatory for students to attend, such as orientations, classes, or residence hall meetings. Not all students attend every one of these activities. However, it is likely that each student will attend at least one of these events. A short survey, possibly based on the UCLA Loneliness Scale (Version 3), could be given to each student at the beginning and end of each semester. This way high

levels of loneliness, which is a known predictor for depression, could be addressed if already present, or perhaps prevented. This would not only keep students safe but would be a relatively simple way to assess some aspects of the collective health and well being of the student body.

Students would also be encouraged and empowered to participate in the prevention of loneliness and depression. Workshops should be offered to all new students on the risks that loneliness poses to overall health and well being as well as on ways to prevent loneliness. Students should also be made aware of the resources the university offers to treat loneliness and depression, such as health centers, support groups, or counseling services. Signs and symptoms of loneliness and depression should be communicated so that students can recognize them in themselves or classmates and appropriately take action. By empowering students to take greater charge of their health and well being, preventing and treating loneliness and depression would become much easier. Prevention and education should take place on every level of the university campus.

A final implication of this study is that more research needs to be funded. While many studies focus on loneliness, only a few deal with loneliness in university students specifically. Since loneliness and depression affect college campuses so severely, it is time for more data to be gathered. Only with more research will significant correlations, causes, and effective prevention tools become known. Until then, what is known has to be acted upon.

APPENDIX A

INFORMED CONSENT

Dear university student, you are being asked to participate in a study that I, Noel Parks, and my advisor, Dr. Jennifer Gray, are conducting. This study is my Senior Undergraduate Honors Thesis so your participation is appreciated. The specific purpose of this research study is to understand how loneliness, sleep quality, and academic performance affect each other. The study will involve the completion of an online survey.

The participation time for the survey varies per student, but should take less than 20 minutes. Please answer all of the questions honestly. There are no perceived risks or discomforts for participating in this research study as well as no direct benefits. You have the right to quit the study at any point with no consequence. Your survey responses will be completely anonymous and no identifying data (such as your name or email address) will be recorded. You cannot be linked to your responses.

If you have questions or concerns please contact me via email at Noel.Parks@mavs.uta.edu. If you have questions about your rights as a research participant, direct your inquiry to the Office of Research Administration, Regulatory Services at 817-272-2105 or regulatoryservices@uta.edu.

Your study results will be entirely confidential since no identifying data will be gathered (such as name or email address). All data collected from this study will be stored in the Honors College for at least three (3) years after the end of this research. The results of this study may be published and/or presented at meetings. Additional research studies could evolve from the information you have provided, but your information will be anonymous and will not be linked to you in any way. Although your rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, the UTA Institutional Review Board (IRB), and personnel particular to this research have access to the study records. The IRB at UTA has reviewed and approved this study and the information within this consent form.

By clicking "Next" and continuing into the study, you confirm that you are 18 years of age or older and have read this document; have been informed about this study's purpose, procedures, possible benefits and risks; have been given the opportunity to ask questions before you begin the survey; and you have been told that you can ask other questions at any time.

You voluntarily agree to participate in this study. By completing the survey, you are not waiving any of your legal rights. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or loss of benefits, to which you are otherwise entitled.

APPENDIX B

SURVEY QUESTIONS

1. What is your age? (Please enter numerical answer only.)

2. What is your ethnicity? (Please select all that apply.)
   a. American Indian or Alaskan Native
   b. Asian or Pacific Islander
   c. Black or African American
   d. Hispanic or Latino
   e. White or Caucasian

3. Are you a graduate or undergraduate student?
   a. Graduate
   b. Undergraduate

4. Are you an international student?
   a. Yes
   b. No

5. How many years have you attended university? (Graduate students please answer only for your graduate career.)
   a. 1
   b. 2
   c. 3
   d. 4
   e. 5
   f. More than 5

6. What are your living arrangements?
   a. Residence Hall
   b. Apartment
   c. House
   d. Other

7. On average, how long does it take you to get to campus?
   a. Less than 5 minutes
   b. 5-15 minutes
   c. 16-30 minutes
   d. 31-45 minutes
   e. More than 45 minutes

8. Besides school, do you have any other obligations? (Please select all that apply.)
   a. Family
   b. Work
   c. Volunteer
   d. Other (Please specify)

9. How many hours per week do these take?
   a. Less than 10
   b. 11-20
   c. 21-30
   d. 31-40
   e. More than 40

10. Not including this semester, what is your current grade point average (GPA)? (Please round to one decimal place.)

11. Indicate how often each of the statements below is descriptive of you.

	Never	Rarely	Sometimes	Always
I lack companionship.	○	○	○	○
There is no one I can turn to.	○	○	○	○
I have a lot in common with the people around me.	○	○	○	○
I feel left out.	○	○	○	○
I'm part of a group of friends.	○	○	○	○
I feel close to people.	○	○	○	○
My interests and ideas are not shared by those around me.	○	○	○	○

12. Indicate how often each of the statements below is descriptive of you.

	Never	Rarely	Sometimes	Always
My relationships with others are not meaningful.	○	○	○	○
No one really knows me well.	○	○	○	○
I feel isolated from others.	○	○	○	○
There are people I can turn to.	○	○	○	○
There are people who really understand me.	○	○	○	○
People are around me but not with me.	○	○	○	○
There are people I can talk to.	○	○	○	○

13. During the past month, how many minutes has it usually taken you to fall asleep each night?

14. During the past month, how many hours of sleep did you usually get each night? (This may be different than the number of hours spent in bed.)

15. During the past month, how often have you had trouble sleeping because you:

	Not during the past month	Less than once a week	Once or twice a week	Three or more times a week
Cannot get to sleep within 30 minutes	○	○	○	○
Wake up in the middle of the night or early morning	○	○	○	○
Have to get up to use the bathroom	○	○	○	○
Cannot breathe comfortably	○	○	○	○
Feel too cold or too hot	○	○	○	○
Had bad dreams	○	○	○	○
Had pain	○	○	○	○

16. During the past month, how would you rate your sleep quality overall?
    a. Very good
    b. Fairly good
    c. Fairly bad
    d. Very bad

17. During the past month, how often have you taken medicine (prescribed or over-the-counter) to help you sleep?
    a. Not during the past month
    b. Less than once a week
    c. Once or twice a week
    d. Three or more times a week

18. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?
    a. Not during the past month
    b. Less than once a week
    c. Once or twice a week
    d. Three or more times a week

19. During the past month, how much of a problem has it been for you to keep up enough enthusiasm to get things done?
    a. No problem at all
    b. Only a very slight problem
    c. Somewhat of a problem
    d. A very big problem

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BIOGRAPHICAL INFORMATION

Noel Parks graduated in December 2015 from the University of Texas at Arlington with an Honors Bachelor of Science in Nursing. She immensely enjoyed her time at UTA and is extremely proud to be a Maverick. She will start her nursing career as a Trauma ICU nurse with the Baylor University Medical Center at Dallas. She looks forward to advancing her research experience in the clinical setting. Her primary interest focuses on how loneliness and cultural transitions impact quality of life. After a few years she plans to return to school and study to become a nurse practitioner.