SAMPLE URF Application #1:
EFFECTS OF A BRIEF NAP ON STRESS

PROJECT PROPOSAL:

Whether on a college campus or in the workforce, the average American has been forced to accept high levels of stress as a normal facet of life. Severe chronic stress can cause depression, heart attacks, and reduced quality of life, while acute stress can cause reduced mood, tolerance for frustration, and decision making[5,8,13]. When changing the conditions that cause the stress is not possible, one must instead turn to stress reduction techniques to both reduce current stress and act as a buffer against future stress.

Sleep has a profound effect on the way the body handles stress. Current research suggests that sleep plays an important role as a stress buffer and helps the body respond appropriately to future stressors[14]. Generally, people who have consistently poor sleep quality will have more severe and exaggerated responses to stressors than those who have typically good sleep quality[3,9,11]. Napping, in particular, has a host of benefits, including improved mood, joy, and tolerance for frustration, as well as decreased anxiety, impulsivity, and reaction to negative stimuli[1,2,4,6,7,10,12]. However, the effects of napping on an individual's ability to cope with acute stress is unknown.

The purpose of the proposed study is to determine the effects of a 30-minute nap on both current and future stress. The impact that naps can have on mood, emotional regulation, and tolerance for frustration, as well as the stress regulating effects of sleeping, suggests that naps could play a useful role as a quick and efficient current stress reducer and future stress buffer. The proposed study will induce moderate stress in participants using a modified version of the Trier Social Stress Test, a validated psychological tool, and then compare their changes in stress after they either take a nap or complete a neutral activity.

Forty participants will be recruited from undergraduate psychology courses at Texas State University to participate in this experiment. Half will be assigned to the nap group and half will be assigned to the wake group. Upon arriving at the lab, participants will fill out a set of questionnaires regarding demographic information, sleep history, current stress, and current mood. To induce stress, they will be informed that they are taking the role of a job applicant who was invited to an interview. They will be told that later on in the session they will be given a speech topic, ten minutes to prepare for it, and will then be recorded giving the speech to three interviewers who are trained to monitor speech quality and nonverbal behavior. Participants will then be asked to subtract 13 from 1022 for 5 minutes, and they will be instructed they must start over every time they make a mistake. After these stressors, stress and mood will again be assessed with questionnaires. Next, participants in the nap group will be prepped to have their sleep recorded with electroencephalography (EEG), which includes placing a stretchy cap with recording sensors embedded in it on their heads. All participants will then be given a 30-min break. During the break, the nap group will take a 30-minute nap and the wake group will be asked to complete a neutral activity, watching an educational film, for 30 minutes. After the

break, stress and mood will be assessed in all participants. For the nap group only, an additional questionnaire regarding sleep quantity/quality will be administered. Finally, participants will be given a speech topic and 10 minutes to prepare for the speech. Immediately after, stress and mood will be assessed for a final time. Participants will then be informed that they do not need to actually give the speech, and each participant will be compensated $20 for their participation.

To determine if napping can reduce stress, scores from the stress questionnaires will be compared before and immediately after the break for the nap group and the wake group. To determine if napping can also serve as a buffer for future stress, scores from the stress questionnaires will be compared immediately after the break and after the 10 minute preparation period. It is hypothesized that the difference in the stress scores before and after the treatment will be significantly greater (larger decrease) in the nap group compared to the wake group, and the difference in stress scores after the treatment and after the ten minute preparation period will be smaller for the nap group compared to the wake group. If these results are observed, this will suggest that a nap can be used as a quick and effective stress reduction technique.

References

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PROJECT TIMELINE:

Fall 2016: Relevant literature will be gathered and analyzed to select the most effective methods for the study design.

Spring 2017: Data collection will take place.

Summer 2017: The data will be analyzed and appropriate conclusions drawn from the observed results.

Fall 2017: The final paper will be written and a manuscript will be submitted to a journal for publication. I would also like to use this study as my Honor's Thesis and present the findings at the Undergraduate Research Conference. In addition, I will send an abstract in to SWPA to present the study at their conference in April, 2018.

BUDGET NARRATIVE:

Row	Description	Details	Quantity	Unit Cost	Budget
1	**Equipment and Supplies**				
2	EEG Supplies				$160
6	Category Total: **$160**				
7	**Other Costs**				
8	Participant Compensation	In the form of cash.	42	$20	$840
9	Category Total: **$840**				
10	Project Total: **$1,000**				

$1,000 total is requested. $160 is requested to purchase the necessary supplies to record electroencephalography (EEG; e.g., alcohol prep pads, skin preparation gel, conductive gel, cotton swabs, etc.) $840 is requested to compensate the participants who take part in the study, as the study should take 2 hours to complete and involves the induction of stress. Each participant will be compensated $20. Money is requested for 42 participants (this includes the 40 participants necessary for the study design, and 2 extra participants to account for participant attrition or failure to fall asleep during the nap).