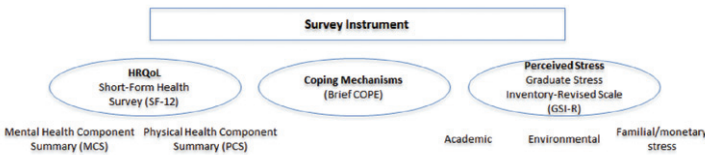


Stress, Coping, and Health-Related Quality of Life among Members in the ISPOR Student Network

Motolani E. Ogunsanya, BPharm, MS; Benita Bamgbade, PharmD; Poojee Sudhapalli, PharmD; Andrew Thach, MS; and Karen Rascati, PhD, The University of Texas at Austin, Austin TX, USA

Stress, Coping, and Health-Related Quality of Life among Students

Health-related quality of life (HRQoL) is a multidimensional concept measuring a person's view on the impact of their health on their physical and mental well-being. Among many things, stress (which is omnipresent in higher education), can impact student's HRQoL. Potential stressors include balancing time, meeting deadlines, delivering presentations, maintaining personal and professional relationships, financial concerns, pressure to succeed, and homesickness. To assess the associations between HRQoL, perceived stress, coping mechanisms, and demographic factors among graduate students, a self-reported paper-pencil survey was conducted in April 2014 among ISPOR student network members (n=355) residing in North America.



Findings among ISPOR Student Network Members

Overall, 110 students responded and completed the survey (110/355 = 31% response rate). Participants were, on average, 30±5 years of age, primarily female (54%), single (61%), had no children (84%), and were originally from countries outside of the United States (76%). The most common religious affiliation was Christianity (32%), more than a third of the sample lived with family, and over one-half had a total annual household income ≥\$25,000. Participants who self-selected 'other' (35.2%) for race comprised the largest proportion of the sample, of which Asian (n=26) was the most frequent response.

Mean physical component summary (PCS) and mental component summary (MCS) scores were 60.0 ± 7.6 and 38.9±13.4, respectively, indicating that while the physical health scores were above the US general population norm (50±10), the mental health scores were below the US general population norm (50±10). On average, participants reported low stress with a mean Graduate Stress Inventory-Revised (GSI-R) score of 2.8 (7 = maximum) per question; (means for subgroups: environmental stress (2.2 = low), academic stress (3.5 = moderate) and familial/monetary stress (2.4 = low)). Participants reported a mean Brief COPE score of 2.4 per question, indicating engagement in a mid-range level of coping mechanisms to deal with stress (i.e., between 2 = 'I usually do this a little bit' and 3 = 'I usually do this a medium amount'). On average, participants reported sleeping 6.7±1.3 hours per night, working (paid hours) 21.9±12.5 hours per week, and exercising 1.7±1.6 hours per week.

In multivariate analyses, increased exercise hours were significantly associated with a higher PCS score [P=0.03]. Compared to living

alone, students who reported living with friends had on average a significantly lower PCS scores [P<0.01]. Additionally, having a religious affiliation was significantly associated with a decreased PCS score [P<0.01]. However, having a religious affiliation was also significantly associated with a higher MCS score [P<0.01]. Finally, an increased score on the GSI-R (indicating higher stress) was significantly associated with a decreased MCS score [P= 0.03].

Implications for Graduate Programs

Overall, participants reported high levels of physical activity, but low mental health and low levels of stress. Participants also reported engaging in a mid-range level of coping mechanisms, potentially explaining their low levels of stress. Four factors (exercise hours, living situation, religious affiliation, and lower levels of stress) were related to graduate students' physical and mental health.

The relationship between stress and mental health as shown from our study reinforces the importance of graduate programs creating conducive environments that may help these students thrive mentally. While some stress is needed to enhance productivity and learning, higher levels of stress may detract from these goals. Given that the goal of a graduate education is to professionalize individuals who have committed their lives to learning, graduate programs should ensure that stress levels encountered by students are at optimal levels.

It should be noted that our data were collected at a time when school activities were winding down. It is possible that stress levels (as measured by the GSI-R) may have been higher if surveys were distributed during a more stressful period of the academic year. In addition, students with high stress may have opted out of participating in our study, leaving only students experiencing less stress to fill out our survey. Given that our study was also cross-sectional in nature, it did not allow for capturing changes in trends throughout the semester. Longitudinal studies are therefore needed to capture these changes. Also, we only targeted graduate students within the ISPOR student network and as such we cannot generalize our study findings beyond those students who responded to our surveys. A national study including a better representation of graduate students in the US is needed.

Conclusion

We identified some modifiable and non-modifiable factors that are important to the HRQoL of graduate students. Our findings suggest that exercise, living with friends, religious affiliation, and stress levels are important factors related to the HRQoL of graduate students. Based on our findings, we recommended that graduate programs incorporate measures such as stress reduction techniques aimed at increasing the quality of life of their graduate students. Also, stress levels could be assessed periodically across the school year to determine when graduate students experience the highest levels of stress to be more attuned to when students may need reminders on how to best cope with stressors. ■