



**Illuminare:**  
A Student Journal in  
Recreation, Parks, and Leisure Studies

*Research Brief*

**Sense of Coherence,  
Perceived Stress and Health  
Related Quality of Life in  
College Students**

Jasmine Townsend<sup>a</sup>, Pei-Chun Hsieh<sup>b</sup>, Marieke Van  
Puymbroeck<sup>c</sup>, Jeanne Johnston<sup>c</sup>, Ruth Gassman<sup>c</sup>, Jon  
Agle<sup>c</sup>, Susan Middlestadt<sup>c</sup>, Ahmed YoussefAgha<sup>c</sup>

<sup>a</sup>The University of Mississippi

<sup>b</sup>Temple University

<sup>c</sup>Indiana University

**Online Publication Date: April 12th, 2013**

Publication details, instructions for authors, and subscription information can  
be found at <http://scholarworks.iu.edu/journals/index.php/illuminare/>

Articles in this publication of the *Illuminare: A Student Journal in Recreation, Parks, and Leisure Studies* may be reproduced if 1) Used for research and educational purposes only, 2) Full citation (author, title, *Illuminare*, Indiana University, Vol. #, Issue #) accompanies each article, 3) No fee or charge is assessed to the user. All articles published in the *Illuminare* are open-access articles, published and distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs 3.0 United States License.

*Research Brief:*

## **Sense of Coherence, Perceived Stress and Health Related Quality of Life in College Students**

**Jasmine Townsend**

Department of Health, Exercise Science, and Recreation Management  
School of Applied Sciences  
The University of Mississippi  
Turner Center 231, P.O. Box 1848, University, MS 38677

**Marieke Van Puymbroeck**

Department of Recreation, Park, and Tourism Studies  
School of Public Health  
Indiana University  
1025 East 7<sup>th</sup> Street, Bloomington, IN 47405

**Ruth Gassman**

Department of Applied Health Sciences  
School of Public Health  
Indiana University  
1025 East 7<sup>th</sup> Street, Bloomington, IN 47405

**Susan Middlestadt**

Department of Applied Health Sciences  
School of Public Health  
Indiana University  
1025 East 7<sup>th</sup> Street, Bloomington, IN 47405

**Pei-Chun Hsieh**

Department of Rehabilitation Sciences  
College of Health Professions and Social Work  
Temple University  
1700 North Broad Street, Suite 304C, Philadelphia, PA 19129

**Jeanne Johnston**

Department of Kinesiology  
School of Public Health  
Indiana University  
1025 East 7<sup>th</sup> Street, Bloomington, IN 47405

**Jon Agle**

Department of Applied Health Sciences  
College/ School  
Indiana University  
1025 East 7<sup>th</sup> Street, Bloomington, IN 47405

**Ahmed YoussefAgha**

Department of Applied Health Sciences  
School of Public Health  
Indiana University  
1025 East 7<sup>th</sup> Street, Bloomington, IN 47405

### **Abstract**

College years can be very stressful, as they are uncertain times. Sense of coherence and physical activity are known to reduce levels of stress. A sample of 1185 college students revealed that sense of coherence and perceived stress were related to overall health, fewer unhealthy days, as well as fewer days of limited activity, and lower levels of perceived stress. Physical activity was related to overall general health and mental health days. Implications for higher education administration are discussed.

---

**Keywords:** college students; sense of coherence; physical activity; quality of life; stress

**Address Correspondence to:** Jasmine Townsend, Ph.D., CTRS, Assistant Professor, The University of Mississippi, Health, Exercise Science & Recreation Management, School of Applied Sciences, 215 Turner Center, P.O. Box 1848, University, MS 38677-1848, U.S.A., Tele: (662) 915-5567 Fax: (662) 915-5525, Email: [jntownse@olemiss.edu](mailto:jntownse@olemiss.edu)

## Introduction

A milestone in the lives of many individuals is the transition from adolescence to adulthood, and from high school to college. As college students move away from home and experience independence for the first time, they face numerous challenges such as cultural adjustment, intrapersonal conflicts, grade competition, and financial problems (Ross, Niebling, & Heckert, 1999). Research has shown a dramatic increase in levels of stress among college students over the past decade (Sax, 1997). A recent study even reported that 77% of students experience moderate levels of stress due to their academic demands (Abouserie, 1994). The detrimental effects of stress on health are well documented in the literature. When students perceive excessive levels of stress, they are more likely to have sleep difficulties, depressive symptoms, suicidal thoughts, and a greater potential to engage in negative health behaviors, such as binge drinking, smoking, and using recreational drugs (Dixon & Robinson Kurpius, 2008; Kisch, Leino, & Silverman, 2005; Lawrence & Schank, 1993).

Furthermore, these negative health behaviors are linked to health related quality of life (HRQoL; a measure of physical and mental health), which has been shown to negatively influence academic achievement (DeBerard, Spielman, & Julka, 2004). As many of our nation's colleges and universities continue to report increasing numbers of applicants as well as admitted students each year (U.S. Department of Education, 2009), concern for the well-being of this unique population has piqued the interest of researchers in a variety of fields (Nguyen-Michel, Unger, Hamilton, & Spruijt-Metz, 2006; Vuillemin et al., 2005).

Previous literature concerning the well-being of college students has suggested that coping ability and physical activity may reduce the adverse effects of stress on health (Bray & Born, 2004; Vuillemin, et al., 2005). Antonovsky (1993a) suggested that

how a person adapts to stress can often explain why one person becomes ill when faced with stress while another stays healthy. He proposed the concept of sense of coherence (SOC) to describe one's ability to respond to their environmental demands or a particular stressor. SOC contains three components: (1) comprehensibility, which refers to the ability to view the stimuli in one's environment as being structured, predictable, and explicable; (2) manageability, which refers to the availability of resources to meet the demands posed by the stimuli in one's environment; and (3) meaningfulness, which refers to the ability to view demands as challenges worthy of investment and engagement (Antonovsky, 1993b).

Antonovsky and Sournai (1988) suggested that individuals with a stronger SOC are more likely to positively cope with stressful events. A number of studies have supported the strong association between SOC and perceived stress. In a study of 336 college students, Smith and Meyers reported that SOC had a negative relationship with perceived stress (Smith & Meyers, 1997). In addition, research evidence has shown that SOC can act as a moderator to buffer the influence of stress on health among the college population (Jorgensen, Frankowski, & Carey, 1999).

The purpose of this brief is to report the associations between SOC, perceived stress, physical activity, and health related quality of life (HRQoL) in a sample of college students. It is hoped that information gained from this brief can provide areas for future examination, as well as implications for developing effective health promotion interventions to serve the college population.

## Methods

As part of a large multi-disciplinary survey about health behaviors and outcomes (Gassman et al., 2010), 2964 undergraduate students at a large Midwestern university were invited to participate in the study via email. A weekly random drawing was available as an incentive for all who completed the

survey, resulting in 10 students per week winning a \$50 credit to their campus ID card, which could be used on campus as well as local businesses. A total of 1,185 students participated by completing an online survey over the course of four weeks (40% response rate). All findings reported herein stem from a secondary analysis of this large dataset.

### Measures

The instrument for the current study was comprised of a subset of items from established questionnaires that were originally included in the multi-disciplinary study, and included (a) the 13-item Orientation to Life Scale (to measure SOC) (Antonovsky, 1993b), (b) the 10-item Perceived Stress Scale (Cohen, Kamarck, & Mermelsteing, 1983), (c) the 4-item International Physical Activity Questionnaire (Craig et al., 2003), and (d) the 4-item Health-Related Quality of Life (HRQoL) scale/Behavioral Risk Factor Surveillance System (Center for Disease Control and Prevention, 2005).

### Results

Pearson correlations were performed to examine the relationships between level of SOC, perceived stress, physical activity, and HRQoL. It was found that SOC was significantly associated with all four areas of HRQoL and negatively associated with perceived stress. In other words, students who had a stronger SOC reported higher overall general health ( $r(1031) = .325, p < .0001$ ), had fewer physically unhealthy days ( $r(1023) = .186, p < .0001$ ), and less mentally unhealthy days ( $r(1024) = .458, p < .0001$ ). Students with a stronger SOC also experienced fewer days of limited activity due to mentally and physically unhealthy days ( $r(1021) = .376, p < .0001$ ), as well as lower levels of perceived stress ( $r(939) = .684, p < .0001$ ).

Second, perceived stress was found to be significantly associated with all four domains of HRQoL. Students who reported a higher level of perceived stress reported lower overall general health ( $r(999) = .292, p < .0001$ ), had a more physically unhealthy

days ( $r(991) = .167, p < .0001$ ), and more mentally unhealthy days ( $r(992) = .577, p < .0001$ ). Students with higher levels of perceived stress also noted more days of activity limitation due to mentally and physically unhealthy days ( $r(990) = .452, p < .0001$ ).

Finally, levels of physical activity participation (measured by minutes of moderate and vigorous physical activity per week) were found to be significantly associated with the level of general health ( $r(1021) = -.191, p < .0001$ ). Level of physical activity demonstrated a slight relationship with mentally unhealthy days ( $r(1009) = -.075, p = .017$ ), but no relationship with the number of physically unhealthy days, levels of activity restrictions, or perceived stress.

**Table 1. Participant Description**

	M
Age (range 18 – 73)	20.5
Gender	%
Female	68.1
Male	31.9
Ethnicity	
White, Not Hispanic	88.0
African American	4.2
Hispanic or Latino	1.7
Asian or Pacific Islander	2.2
Multiracial	2.2
Year in School	
Freshman	17.6
Sophomore	26.2
Junior	23.5
Senior	32.6
Employment/Volunteering	
Full-time (>20 hrs/wk)	9.3
Part-time (<5 hrs/wk)	62.3
Volunteering (<5 hrs/wk)	79.4
Non-Academic Involvement	
Club membership	59.3
Fraternity/Sorority membership	16.6

### Discussion

SOC is suggestive of a person's ability to manage and cope with life events. College students in this study who had stronger SOC had greater overall general health and fewer unhealthy days, supporting previous findings (Jorgensen, et al., 1999; Smith & Meyers, 1997). Perceived stress was also found to be significantly related to SOC indicating that the higher the levels of perceived stress the lower the student's SOC; which may imply that they would have lower HRQoL as well. SOC is suggestive of a person's ability to manage and cope with life events; therefore college students with high SOC would be more likely to handle the daily stressors associated with student life, thereby having a higher overall quality of life. Given the importance of these three constructs, student support services should look for ways they can impact SOC and perceived stress levels, which may lead to positive changes in HRQoL. One suggestion is to use the SOC, HRQoL, and perceived stress questionnaires as screening devices in order to know which students to target for stress management.

Interestingly, physical activity was only significantly related to overall general health and mentally unhealthy days. While the literature suggests that physical activity is related to SOC and perceived stress in other populations (Hassmén, Koivula, & Uutela, 2000), our findings suggest that this relationship does not exist within the college student population; however, we do acknowledge that our sample is overwhelming female and Caucasian and does not represent the general college student population. It is important to consider that college students may have unique characteristics that influence their perception of the importance of physical activity on their ability to manage and cope with life events. Taking this into consideration, student support services should emphasize the importance of physical activity as a tool for students to cope with the stressors associated with student life. At the very least, more research is

required to more clearly understand these findings. While correlation data only demonstrate relationships, they provide new directions for interventions to improve the health of college students.

### References

- Abouserie, R. (1994). Sources and levels of stress in relation to locus of control and self esteem in university students. *Educational Psychology, 14*(3), 323.
- Antonovsky, A. (1993a). The implications of salutogenesis: An outsider's view. In A. Turnbull, J. Patterson, S. Behr, D. Murphy, J. Marquis & M. Blue-Banning (Eds.), *Cognitive coping, families, and disability*. Baltimore, MD: Paul H. Brookes.
- Antonovsky, A. (1993b). The structure and properties of the sense of coherence scale. *Social Science and Medicine, 36*(6), 725-733.
- Bray, S. R., & Born, H. A. (2004). Transition to university and vigorous physical activity: implications for health and psychological well-being. *Journal of American College Health, 52*(4), 181-188.
- Center for Disease Control and Prevention. (2005). Health related quality of life surveillance - United States 1993-2002. *Morbidity and Mortality Weekly Report, 54*(SS04), 1(35).
- Cohen, S., Kamarck, T., & Mermelsteing, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 385-396.
- Craig, C., Marchall, A., Sjostrom, M., Bauman, A., Booth, M., Ainsworth, B., . . . Oja, P. (2003). International Physical Activity Questionnaire: 12-Country reliability and validity. *Official Journal of the American College of Sports Medicine, 1381-1395*.
- DeBerard, M. S., Spielmans, G. I., & Julka, D. C. (2004). Predictors of academic achievement

- and retention among college freshman: A longitudinal study. *College Student Journal*, 38(1), 66-80.
- Dixon, S. K., & Robinson Kurpius, S. E. (2008). Depression and college stress among university undergraduates: Do mattering and self-esteem make a difference? *Journal of College Student Development*, 49(5), 412-424.
- Gassman, R., Angley, J., Johnston, J., Middlestat, S., Van Puybroeck, M., & YoussefAgha, A. (2010). Catalyzing trans-disciplinary studies in public health: A college health survey and data platform. *Health Promotion Practice*.
- Hassmén, P., Koivula, N., & Uutela, A. (2000). Physical exercise and psychological well-being: A population study in Finland. *Preventive Medicine*, 30(1), 17-25.
- Jorgensen, R. S., Frankowski, J. J., & Carey, M. P. (1999). Sense of coherence, negative life events and appraisal of physical health among university students. *Personality and Individual Differences*, 27(6), 1079-1089.
- Kisch, J., Leino, E. V., & Silverman, M. M. (2005). Aspects of suicidal behavior, depression, and treatment in college students: Results from the Spring 2000 National College Health Assessment Survey. *Suicide and Life-Threatening Behavior*, 35(1), 3-13.
- Lawrence, D., & Schank, M. J. (1993). Health status, health perceptions, and health behaviors of young adult women. *International Journal of Nursing Studies*, 30(6), 527-535.
- Nguyen-Michel, S. T., Unger, J. B., Hamilton, J., & Spruijt-Metz, D. (2006). Associations between physical activity and perceived stress/hassles in college students. *Stress & Health: Journal of the International Society for the Investigation of Stress*, 22(3), 179-188.
- Ross, S. E., Niebling, B. C., & Heckert, T. M. (1999). Sources of stress among college students. *College Student Journal*, 33(2), 312-317.
- Sax, L. J. (1997). Health trends among college freshmen. *Journal of American College Health*, 45(6), 252-262.
- Smith, T., & Meyers, L. (1997). The sense of coherence: Its relationship to personality, stress, and health measures. *Journal of Social Behavior & Personality*, 12(2), 513-526.
- U.S. Department of Education. (2009). Fast Facts. Retrieved April 2, 2010, from <http://nces.ed.gov/fastFacts/display.asp?id=98>
- Vuillemin, A., Boini, S., Bertrais, S., Tessier, S., Oppert, J.-M., Herberg, S., . . . Briançon, S. (2005). Leisure time physical activity and health-related quality of life. *Preventive Medicine*, 41(2), 562-569.