Article 69

Empowering College Students Through Peer-to-Peer Health Promotion

Paper based on a program presented at the 2012 American Counseling Association Conference, San Francisco, CA, March 20-24, 2012

Denise Rodriguez-Brown

Denise Rodriguez-Brown has been an academic adviser and faculty counselor at a community college for over 17 years. She is a LMHC in Florida State and is currently a PhD candidate with exercise psychology as her main research interest.

Today we have to ask how can a society be created in which a number of symptoms can be prevented. Because once they are there, the chance of curing them is only a relative one.

Erik H. Erikson

Previous investigations have observed significant correlations between (a) the regular practice of physical activity and (b) health promotion of physical and mental health in clients across the lifespan. Such trends of scientific observations seem to gain added relevance among groups with a preponderance of health issues such as: overweight and obesity, osteoporosis, cardiovascular disease (CVD), diabetes, stress, depression, anxiety, and addictions (Blair et al., 1989, 1996; Chan, Anderson, & Lau, 2003; Faulkner & Taylor, 2005; Levitsky, Halbmaier, & Mrdjenovic, 2004; McAuley, & Courneya, 1993; Monteiro, Jeremic, & Budden, 2010; Nelson, Story, Larson, Neumark-Sztainer, & Lytle, 2008; Potteiger, 2011).

Although all health-related issues resulting from lack of physical activity are critical, this article focuses on the gradual detrimental effect of overweight and obesity among college students this century. The United States Department of Health and Human Services has labeled it "a national priority of immediate action" (US-HHS, 2010). The Center for Disease Control and Prevention (CDC) and the National Heart, Lung and Blood Institute (NHLBI) define the terms "overweight" and "obesity" in light of an excess of body fat. However, the terms must be used with caution. Gaining extra pounds could also imply that an individual has elevated body weight generated by excess of body water, increased muscle fiver or heavy bone mass (CDC, 2010; NHLBI 2009, 2010 and US-HHS, 2010).

How can body fat be determined? There are different methods that have been considered efficient for its precision to estimate body fat, such as: the waist to hip ratio, the body perimeter, the skin pinch, and the body mass index or BMI among others. Because of its plasticity to identify large populations, the BMI is the most common procedure used in health science research. The BMI formula includes a person's body

weight in pounds and height in inches; the resulting ratio represents a numerical BMI level. The National Heart Lung and Blood Institute includes only four levels: underweight (BMI less than 18,50), healthy weight (BMI between 18,50 and 24,99), overweight (BMI between 25 and 29,99) and obese (BMI of 30 or higher). Other health organizations also use three additional obesity levels. The NHLBI's website provides an easy-to-use BMI calculator which must be used with caution since the results can best be interpreted by a health professional (CDC, 2010, NHLBI, 2009).

Weight gain among college freshmen, in particular, became a significant health topic this century. When high school senior students transition to college, they often face reduced physical activity, and possible body weight gain as health risks with lasting health and behavioral effects (Bray & Born, 2004). Thus, a popular expression was coined within the college environment: Freshman 15, which refers to an average of 15-pound (6.8 kg) weight gain by college freshmen. Some studies found that freshmen only gain an average of 2.7 pounds (1.2 kg) instead of the expected 15-pound weight increase; other studies give a range of 2.5 to 8.8 pounds (1.1 to 4.8 kg) of freshmen weight gain during their first year in college (Anderson, Shapiro, & Lundgren, 2003; Levitsky et al., 2004; Mihalopoulos, 2008)

Since the turn of the century, global obesity and overweight figures have been rising to epidemic proportions. The World Health Organization (WHO) reported approximately 1.6 billion overweight adults, 400 million obese, and 20 million children overweight in 2005. WHO also projected that 2.3 billion adults will be overweight and over 700 million will be obese by 2015 In the United States, different wellness reports indicate that 65% of the American population is battling overweight and more than 30% suffer from obesity. The U.S. Department of Health and Human Services (2010) had anticipated this trend when they stated that one in three people were affected by the same concern; and that one in eight deaths would be directly related to excess of body weight in the U.S. The data correlates with all-cause mortality research indicators including sedentary life styles, unhealthy diets, and lack of effective mechanisms for people to deal with negative stress, anxiety, depression, suicidal ideation, low self-motivation, sleeping problems, tiredness, and other issues (Blair et al., 1989, 1996; (WHO, 2005; 2010).

Different efforts to improve health have been introduced. An initial nationwide attempt to decrease the body weight factor in the U.S. was an assignment of \$650 million for health prevention initiatives with the implementation of the *American Recovery Act of 2009* through the Department of Health and Human Services (HHS) and the Centers for Disease Control (CDC). Its specific target areas were: to increase physical activity, to improve nutrition, to decrease overweight and obesity, to decrease tobacco use, and to decrease exposure to secondhand smoke (Keener et al., 2009).

How bad is the obesity issue across the U.S.? According to a report published by the Trust of American Health (2009) and the Calorieslab (2011), results revealed that the state of Mississippi continues to rank first. Alabama and Tennessee are second and third—with Tennessee moving up from fourth in 2009. In the sunshine state, the Florida Department of Health and the Health of America reported that young people (ages 10-17) had a 33% obesity rate and adults 18 and older had a 24% obesity rate over the 2006-2008 fiscal years in a total population of 18,537,969 Floridians. Such results placed the state of Florida at rank 39 for adult obesity and at rank 17 for young obesity in the country. Lately, Calorielab's results show that Florida has moved up to rank 36 in 2010

and later to rank 29 in 2011 (Calorielab, 2011; Florida Department of Health, 2010; Trust of America Health, 2009).

At the college level, health reports seem easily extrapolated to those present among college students today. College-age individuals leave home to live on their own and run their own lives. However, some college candidates may need to enroll in their local community college to save on their education by still depending on their parents financially. It is a period in life likely to shape young people's identities and belief concepts, which may later become life-long behaviors.

In any case, whether the student decides to live on campus or not, the campus life may present situations of health risks with lasting effects for freshman students—namely smoking, alcoholism, poor nutrition, overweight, obesity, drug use, moving away from support systems, lack of physical activity, and others. In addition, academic stress during the first year in college may exacerbate the presence of anxiety, depression, and stages of suicide—a leading cause of death among young people ages 10 to 24 (DeLeo & Lester, 2002; Nelson et al., 2008)

Early identification of unhealthy behaviors has been the goal of the American College Health Association (ACHA) in the United States since 1920. ACHA's surveys are instrumental in the implementation of health strategies and student programs in college (ACHA, 2009; Bovard, 2008). For instance, the fall 2008 and 2009 survey results (N= 26,685 and N=34,208 respectively) yielded quite similar results as shown below:

	Fall 2008	Fall 2009
Anxiety	18.2%	18.6%
Depression	11.2%	11.1%
Stress	27.2%	27.8%
Alcohol use	4.0%	3.8%
Drug use	1.8%	1.7%

The American College Health Association (ACHA) produces yearly summaries on the U.S. college population health status. In 2008 ACHA surveyed over 26,000 students and the results revealed that stress is a central issue on U.S. campuses. Other health indicators included in the 2008 ACHA survey showed that: (1) over 50% of the students were hopeless; (2) over 60% were sad; (3) over 20% were so depressed that it was difficult to function; (4) 80% were exhausted (not from physical activity); (5) 85% felt overwhelmed by 'all I have to do'; (6) 56% felt very lonely; (7) 47% felt overwhelming anxiety; (8) 37% felt overwhelming anger; (9) 49% had negative consequences of being drunk with an estimated Blood Alcohol Concentration [eBAC] of less than .08; and (10) 31% of the students surveyed reported levels of overweight and obesity with a BMI of 25 or higher (ACHA, 2008).

Unfortunately, the 2010 ACHA survey shows little or no improvement on the same categories evaluated two years earlier (in 2008 and 2009) in the same population of U. S. college students. Research findings confirm poor quality of college students' lifestyles, which seems to compare well with increased long-term health risk factors such as cardiovascular disease, diabetes, obesity, low academic performance, and other related health issues in the U.S.

From a health and wellness standpoint, college counselors and wellness professors seem to be the key agents in the instrumentation of solutions to help prevent

negative body weight and other unhealthy behaviors taking place on the college campus. There is no doubt that the college population is in need of urgent attention, especially when college health promotion brings life-long benefits across the lifespan because of its future and direct impact on adulthood. This is both a psychological and physiological behavioral concern, which was analyzed and presented from a student peer-to-peer perspective at the 2012 ACA Conference in San Francisco, CA.

In spite of all of the information available and the need for behavior change to revert current health trends, young people seem to need a fundamental reason and motivation to produce effective changes in their lives. Overweight and obesity is a health problem across the lifespan and across age groups. Additionally, modern societies, unlike underdeveloped ones, seem to be getting the best and the worst of the technology experience. Without question, we, as a "developed" community, welcome the advance of technology—namely laptops and I-pads, 3D TV, cell phone texting, computer apps, electronic game consoles, and much more—because they add flexibility, fun, and speed to our everyday activities, such as the simple routine of organizing a personal agenda. However, the same technologies come to rule the lifestyles of most busy individuals such as those of today's college students.

More and more, people keep on with their daily busy lives and appear to ignore the current truth unveiled by statistical health reports that say much more about behavior results than their cognitions or awareness can dimension. Not only has the World Health Organization (WHO), the Centers for Disease and Control (CDC) and other similar health related authorities announced, remarked and urged communities around the globe that health issues related to excess of body fat are real, most important, they have announced that communities are facing "health issues of epidemic proportions" (CDC, 2010; WHO, 2009).

In the higher education arena, mental and physical health is part of the academic agenda at most colleges in the U.S. For instance, different campus functions include Health Awareness Day, HIV/AIDS testing, provision of STDs and diabetes information, and other health-related actions. Thus, freshman students may obtain plenty of materials addressing health on campus in their welcome packet. In addition, most universities do not allow students to proceed with their initial college admission paperwork until they have completed their health profile, which includes immunization and other health requirements. It is also common that, during the academic year, students have access to different services free of charge. Among those, the use of campus counseling services and the wellness center or campus gymnasium are included. And yet, American college students' health seems to be far from optimal when young people fail to manage certain issues such as daily stress, college or academic stress, anxiety, depression, low self-esteem, suicide ideations, addictions, cardiovascular diseases, diabetes, and others (Levitsky et al, 2004; Monteiro et al, 2010; Petosa, Suminski, & Hortz, 2003; Yoh, 2009).

The nature of the presenting health problem appears to place college counselors, wellness professors and administrators at the forefront to battle possible emerging health issues in college. Thus, a number of ubiquitous questions emerge: How 'fit' are the students on campus? Is body weight a real issue in college; if YES, how much; if NO, are there any other health issues of immediate concern within the student population at my college? What, if any, other health issues might college students be battling on a day-

to-day basis? What types of health initiatives are called for and how would health be at jeopardy if no actions were taken? How could college students' overall health and fitness be best stimulated, encouraged, and strengthened?

To help shed some light on answers, Potteiger (2011) addresses health in two simple terms: *activity* versus *inactivity*. The author asserts that a person's health is gauged by the amount of daily activity, physical exercise, and sports people are able to fit in 24-hours. History shows that being active was part of a person's education; teachers like Plato and Aristotle used to advise their students that optimal health comes with the daily practice of regular physical activities and sports, which endow a person with long lasting health and strength. Later, individuals did not need to be concerned about inactivity issues either. Negative body weight was not necessarily related to inactivity since most daily labor-related actions would provide a minimum of the required daily cardiovascular work to maintain a healthy lifestyle (i.e., at least 30 minutes of walking, jogging, running, climbing, lifting, etc.).

Biagioli (2007), an investigator of the physical education program at Florida International University, addressed the concept of health from a wellness perspective. The theory of wellness covers different areas that are structured into a wellness model. Originally designed by Joyce Fitzpatrick (2006), who is not only the creator of the wellness approach to patient care and recovery but a recognized nurse in the field, a past College of Nursing Provost, an investigator, and 18-time award winner within the field of nursing. Biagioli endorses -in advanced personal training- theories that originally were part of a holistic approach to patient care and a model for patient's recovery and evaluation. Thus, following Fitzpatrick's wellness model, today's college students learn about total health through the inclusion of the following six areas:

- 1. Physical
- 2. Mental
- 3. Emotional
- 4. Intellectual
- 5. Social
- 6. Environmental

These areas promote mental and physical health, therefore, general procedures of the nursing profession are embedded with a strict sense and knowledge that patients are likely to get well and feel better as long as the caregiver is able to address, plan for, and evaluate the six areas of wellness (Fitzpatrick, 2006).

Different proponents of optimal health advise that the achievement of higher levels of wellness is directly related to the achievement of improved lifestyles. These concepts translate into activity as envisioned by Potteiger (2011), in which regular cardiovascular physical activity becomes part of a person's daily routine. Coupled to this is the adoption of changes in the nutritional intake with high nutritional values and low bad-fat elements (Faulkner & Taylor, 2005; Potteiger, 2011).

On the mental health side, positive psychology—as much as cognitive behavioral psychology—seems to meet the wellness approach halfway. Patients seeking healthier lifestyles would be adding valuable alternatives by learning how to manage their lives from a positive perspective. Thus, for instance, a college student who is able to keep a cardiovascular physical activity within a healthy range (60 to 80 percent of their maximum heart rate) is able to avoid fast foods, and can take a positive approach to

learning, would be and feel healthier. Such perspective explains how health promotion and disease prevention would work in today's fast-paced college campuses (Biagioli, 2007; Brown, 1992; Faulkner & Taylor, 2005, Fox, 1999; Galper et al., 2006; Grace, 1997; James, 2004; Ratey & Hagerman, 2008).

How could a wellness concept be effectively distributed to all students on campus? This was the initial question posted by a group of students at a Florida College. Their main goal was to start a student organization that could address health issues and promote overall health for all students on campus. Nelson et al. (2008) explained that young college students, aged 18 to 25, are in a period of life that will help them build their identity as future adults, a 'lifespan' opportunity to help learners to adopt life behaviors with short- and long-term health benefits.

Students envisioned the organization as an adjunct component of the wellness activities already taking place on campus. A program name selection process took into consideration different options form *Healthy and Fit*, to *Fitness Winners*, and to the final name choice: *Fit4Life*. This was a student-generated idea by students for students, which meant that the peer-to-peer nature of the Fit4Life program would steer the direction of the organization.

Empowering through peer-to-peer health interventions implies involvement, motivation, and compromise. Thus, the counselor and club adviser's decisions, procedures, evaluations, and results have a potential to become highly effective and farreaching because of the scope of impact in dealing with the promotion of health among college students.

As predicted by the latest literature, college experiences could be detrimental to student's health. Long lasting effects of college students' behavioral shortcomings could affect their health gradually and quietly over time. At the top of the list are weight gain (with a BMI of 25 or more), obesity at different levels (with the BMI ranging from 30 to 40 or higher), diabetes II, osteoporosis, CVDs, stress, anxiety, and depression. The program Fit4Life helped develop a model to assist college students in their search of total wellness and for students' overall health promotion (ACHA, 2008 & 2009; CDC, 2010; Keener et al., 2009).

From a counseling perspective, psychotherapeutic 'powers' support club activities from a group model that involves the cognitive-behavioral and positive psychology perspectives. This becomes central knowledge and training expected of a college student counselor. Likewise, wellness and physical education conceptual knowledge (i.e., identification and full understanding of the concepts of *activity* versus *inactivity* [Potteiger, 2011]) is also essential.

The fitness model was first referred to as the fitness mentors; later it evolved into a much more than mentoring option. The actions taken by the Fit4Life members generated the so-called 3R-Wellness Model (3R-WM) with the 'Rs' standing for: Reach out, Recruit, and Regroup. To 'reach out', a selected group of eight Fit4Life college students, who take the title of Fitness Ambassadors, lead the club functions. Club members and prospective members learn from them about health strategies. The fitness ambassadors are also responsible to spread wellness concepts to all students on campus at freshman orientations, at the campus cafeteria, in the classrooms by requesting permission to make announcements on behalf of Fit4Life, and at any other campus event that they may find available to introduce health concepts endorsed by the Fit4Life

program.

The next step—'recruit'—deals with involving the new students in the Fit4Life activities. Fitness Ambassadors invite new members to become new Fit4Life active members by signing a 'Membership Agreement Form,' in which they pledge to make personal overall fitness a true priority in their college life (i.e., physical, mental, emotional, intellectual, social, and environmental fitness [Biagioli, 2007; Fitzpatrick, 2008]).

The last step—'regroup'—involves overall fitness training through bi-monthly group meetings, workshops, and discussions organized by the Fitness Ambassadors under the leadership of the club adviser/counselor. Throughout the semester three central goals guide the Fitness Ambassadors' actions on campus: (a) to identify future ambassadors for the club, (b) to bring fun and fitness to the campus and (c) to promote wellness and health.

Overall, Fit4Life has been able to serve as an adjunct body to encourage peer health and wellness among all students on campus. The outstanding results obtained in the program evaluations are reflected throughout the campus: the Student Affairs Dean supported the actions taken by Fit4Life, especially to help avoid disruptive student behaviors; the Wellness Center, students were able to support their peers when they needed a 'workout body' to keep up with their training goals as recommended by their wellness trainer on campus; the Office of the Campus President; and the Office of Student Life, all of which helped to pave each step of the way for the Fit4Life 3R-WM to work effectively and efficiently.

At the 2012 ACA Conference, the learning objectives described below framed the topic of the presentation; they are also central components of the peer-to-peer health promotion program presented:

- To identify students' unhealthy behaviors (e.g., consume high caloric drinks).
- To aid students in the process of behavior change based on cognitivebehavior, positive psychology, and reality therapy approaches to counseling.
- To reach out to students as they create long lasting peer-to-peer and student-counselor relationships.

Life on campus can be as challenging for freshman students as for those who made it through, are close to graduation and ready to face their first job search. Thus, wellness in college may require some adjunct training to deal positively with different health concerns ranging from addictions, overweight (BMI of 25 or more) and obesity (BMI of 30 or more), to poor organizational and study skills (Misra & McKean, 2000). Research on college student experiences—positive or negative—confirm that college behaviors and experiences have a power to imprint on young peoples' lifestyles and future health over time (Faulkner & Taylor, 2005). At Fit4Life, wellness is a student state of total fitness for life in college and for life as a future professional.

Students do experience change in college. However, when such changes are detrimental to their current and future lifestyle and total wellness, college counselors may feel urged to seek adjunct counseling options, such as the 3R-WM model presented in this paper. Welcome to positive peer pressure!

References

- American College Health Association. (2008, March/April). American College Health Association—National College Health Assessment Spring 2008 Reference Group Data Report (Abridged). *Journal of American College Health*, *57*(5), 479-480.
- American College Health Association (ACHA). (2009, Fall). *ACHA-National College Health Assessment: Reference Group Executive Summary*. Retrieved from http://www.acha-ncha.org/reports ACHA-NCHAII.html
- Anderson, D., Shapiro, J., & Lundgren, J. (2003). The freshman year of college as a critical period for weight gain: An initial evaluation. *Eating Behaviors*, 4(4), 363-367.
- Biagioli, B. D. (2007). *Advanced concepts of personal training*. Miami, FL: National Council on Strength and Fitness.
- Blair, S., Kohl, H. W., 3rd, Paffenbarger, R., Clark, D., Cooper, K., & Gibbons, L. (1989, November 3). Physical fitness and all-cause mortality. A prospective study of healthy men and women. *JAMA*, 262(17), 2395-401.
- Blair, S., Kampert, J., Kohl, H. W. 3rd, Barlow, C., Macera, C., & Paffenbarger, R., et al. (1996). Physical fitness and all-cause mortality. A prospective study of healthy men and women. *JAMA*, 276(3), 205-210.
- Bray, S., & Born, H. (2004). Transition to university and vigorous physical activity: Implications for health and psychological wellbeing. *Journal of American College Health*, 52(4), 181-188.
- Brown, P. J. (1992). The biocultural evolution of obesity: An anthropological view. In P. Bjorntorp & B. Brodoff (Eds.). *Obesity*. Philadelphia, PA: J.B. Lippincolt.
- Calorielab. (2011) How fat is your state? Retrieved from http://calorielab.com/news/2011/06/30/fattest-states-2011/
- Center for Disease Control and Prevention. (2010, August 3rd). National Center for Health Statistics. In *National Health and Nutrition Examination Survey*. Retrieved September 10, 2010, from http://www.cdc.gov/vitalsigns/AdultObesity/LatestFindings.html
- Chan, K., Anderson, M., & Lau, E. (2003). Exercise interventions: Defusing the world's osteoporosis time bomb. *Bulletin of the World Health Organization*, 81.
- DeLeo, D., Baertolote, J. & Lester, D. (2002). Self-directed violence. In E. G. Krug, L. L. Dahlberg, J. A. Mercy, A. B. Zwi, & Rafael Lozano (Eds), *The world report on violence and health* (pp. 183-212). Geneva, Switzerland: World Health Orgainzation. Retrieved from http://www.who.int/violence_injury_prevention/violence/global_campaign/en/chap7.pdf
- Faulkner, G., & Taylor, A. H. (2005). Exercise, health, and mental health: Emerging relationships. New York, NY: Rutledge.
- Fitzpatrick, J. J., (Ed.). (2006). *Encyclopedia of nursing research* (2nd ed.). New York, NY: Spring Publishing.
- Florida Department of Health. (2010). Florida Department of Health, Office of Health Statistics and Assessment. Florida Behavior Risk Factor Surveillance Survey. Retrieved from http://www.floridacharts.com/charts/brfss.aspx

- Fox, K. (1999, May). The influence of physical activity on mental well-being. *Public Health Nutrition*, 2, 411-418.
- Galper, D., Trivedi, M., Barlow, C., Dunn, A., & Kampert, J. (2006). Inverse association between physical inactivity and mental health in men and women. *Medicine and Sciene in Sports and Exercise*, 38, 173-178.
- Grace, T. (1997). Health problem of college students. *Journal of American College Health*, 45(6), 243-250.
- James, D. (Ed.). (2004). *Nutrition and Well-Being: A-Z. 2 vols.* New York: Thompson/Gale.
- Keener, D., Goodman, K., Lowry, A., Zaro, S., & Kettel Khan, L. (2009). Recommended community strategies and measurements to prevent obesity in the United States: Implementation and measurement guide. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.
- Levitsky, D., Halbmaier, C., & Mrdjenovic, G. (2004). The freshman weight gain: A model for the study of the epidemic of obesity. *International Journal of Obesity & Related Metabolic Disorders: Journal of the International Association for the Study of Obesity*, 28(11), 1435-1442.
- Lowery, S. E. (2005, November/December). Body image, self-esteem, and health-related behaviors among male and female first year college students. *Journal of College Student Development*. Retrieved from http://findarticles.com/p/articles/mi qa3752/is 200511/ai 15847537/
- McAuley, E., & CCourneya, K. (1993). Adherence to exercise and physical activity as health-promoting behaviors: Attitudinal and self-efficacy influences. [La adhesion a la actividad física para promover auto conductas de salud: Influencia de la actitud y el auto eficiencia.]. *Applied & Preventive Psychology*, 2(2), 65 77.
- Mihalopoulos, N. e. a. (2008, September 9). The Freshman 15: Is it Real? *Journal of American College Health*, 56(5), 531-534.
- Misra, R., & McKean, M. (2000). College student's academic stress and its relation to their anxiety, time management, and leisure satisfaction. *American Journal of Health Studies*, 16(1).
- Monteiro, A. C., Jeremic, M., & Budden, M.C. (2010). Can we have fries with that, please? Nutrition and physical activities among college students. Presented at the International Teaching and Learning Conference in Orlando, FL.
- National Heart, Lung and Blood Institute. (NHLBI, 2009). Obesity Education Initiative: Classification and Risks of Overweight and Obesity. *National Heart, Lung and Blood Institute*. Retrieved April 23, 2009, from http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/profmats.htm
- National Heart, Lung and Blood Institute. (NHLBI, 2010). What are overweight and obesity? *National Heart, Lung and Blood Institute*. Retrieved April 23, 2009, from http://www.nhlbi.nih.gov/health/health-topics/topics/obe/
- Nelson, M. C., Story, M., Larson, N. I., Neumark-Sztainer, D., & Lytle, L. A. (2008, October). Emerging adulthood and college-aged youth: An overlooked age for weight-related behavior change, *Obesity*, *16*(10).
- Petosa, R., Suminski, R., & Hortz, B. (2003). Predicting vigorous physical activity using social cognitive theory. *American Journal of Health Behavior*, 27(4), 301-310.

- Potteiger, J. A. (2011). American College of Sports Medicine's introduction to exercise science. Philadelphia, PA: Lippincott Williams & Wilkins.
- Ratey, J., & Hagerman, E. (2008). Spark: The revolutionary new science of exercise and the brain. New York, NY: Hachette Book Group.
- Trust of America Health. (2009, July). New report finds Florida has 39th highest percent of obese adults and 17th highest percent of obese and overweight children in the U.S. Retrieved from http://healthyamericans.org/reports/obesity2009/relase.php?stateid=FL
- U.S. Department of Health and Human Services. (1999, November 17). *Overweight and obesity: A vision for the future*. U.S. Department of Health and Human Services Retrieved from http://www.surgeongeneral.gov/library/calls/obesity/fact-vision.html
- Van Itallie, T., & Kral, J. G. (1981, August 28). The dilemma of morbid obesity. *JAMA*, 246(9), 999-1003.
- Wing Kwan, M. Y., Bray, S. R., & Martin Ginis, K. A. (2009, July-August). Predicting physical activity of first-year university students: An application of the theory of planned behavior. *Journal of American College Health*, 58(1), 45-48.
- World Health Organization. (2009). *Obesity and Overweight*. Retrieved March 26, 2009, from http://www.who.int/dietphysicalactivity/publications/facts/obesity/en
- Yoh, T. (2009, September). Motivational attitudes toward participating in physical activity among international students attending colleges in the United States. *College Student Journal*, 43(3), 931-936.

Note: This paper is part of the annual VISTAS project sponsored by the American Counseling Association. Find more information on the project at: http://counselingoutfitters.com/vistas/VISTAS_Home.htm