

Professionalization of Exercise Physiologyonline

ISSN 1099-5862

March, 2009

Exercise Science Is Not a Sound College Investment

Tommy Boone, PhD, MPH, FASEP, EPC

Professor and Chair

Department of Exercise Physiology

The College of St. Scholastica

Duluth, MN 55811

The enemy of truth is illusion. Illusion is a false interpretation by the mind...a belief or hope that has no real substance. Illusion comes when we perceive something to be true that isn't true or is only partly true.

-- Dr. Fathi El-Nadi

College isn't always a sound investment. Today, students are taking out loans in the amount of \$60,000 and more to pay for a bachelor's degree [1]. If that amount doesn't cause the hair to stand up on the back of your neck, I don't know what will. Worse yet, some students are spending the money on useless degrees like exercise science, sports science, and kinesiology. Why are they useless? The answer is real simple: There are no financially viable and credible jobs for the graduates of these programs. Given this belief, how can the students pay back the tuition loans much less survive without a pay check to buy food and pay for apartment? That is exactly problem. They can't pay the bills without going back to school to get a different degree, which requires students to take out more loans to pay for more tuition. None of this makes any sense to me, yet no one on the academic side of the house seems to get the big picture.

Meanwhile, year after year more parents send their children to college only to find out when they graduate there are no credible jobs as so-called exercise scientists. Then, with a little reflection, they realize their son or daughter majored in a meaningless degree program. Unlike the undergraduate degree in biology, accounting, math, education, psychology, and most other college degrees in the United States, the exercise science degree isn't its original name. In fact, it is 99% the equivalent of a physical education degree without the typical activity courses and the opportunity to teach physical education in the public school system. To make my point somewhat stronger, there is actually little to no difference between exercise science and kinesiology, exercise science and sports sciences, exercise science and human performance, and dozens of other degree titles. Given that all of these degree programs are essentially the same, why are there so many different titles? That is a good question. Take a moment, read through the

following list of courses (noting in particular the courses in **bold**) one university requires for the “exercise science” major:

KIN 11 lifetime activity course**

KIN 11 sport activity course**

KIN 2203 First Aid

KIN 2300 Foundations of Professional Physical Education

KIN 2301 Anatomical Basis for Physical Activity

KIN 2307 Care and Prevention of Athletic Injuries

KIN 3100 Biomechanics Laboratory

KIN 3300 Biomechanics

KIN 3304 Recreation Administration

KIN 3305 Test and Measurement

KIN 3306 School and Personal Health

KIN 3310 Fundamentals of Motor Development

KIN 3316 Nutrition for Sports and Exercise

KIN 3320 Pedagogy

KIN 3336 Sport Facilities Management and Design

KIN 4122 Strength & Conditioning Laboratory

KIN 4301 Issues in Sport Seminar

KIN 4310 Adapted Physical Education

KIN 4311 Physiology of Exercise

KIN 4322 Strength and Conditioning

KIN 4325 Sports Psychology

any one of the following courses:

KIN 3311 Coaching Methods I: Football and Baseball

KIN 3312 Coaching Methods II: Volleyball and Basketball

KIN 3313 Coaching Methods III: Track and Field and Softball

The courses in **bold** are 95% courses taken by physical education majors at any college or university. The remaining 5% are also traditional physical education courses, but they are also courses that may be taken as part of an exercise physiology curriculum. The difference is that the exercise physiology degree includes more science-oriented courses and significantly more laboratory experiences. For comparison purposes only, consider the list of courses that represent the accredited undergraduate exercise physiology degree at the College of St. Scholastica (<http://faculty.css.edu>):

EXP 3323 Sports Nutrition

EXP 3330 Psychophysiology of Stress and Exercise (+ 2-hour lab)

EXP 3321 Functional Anatomy (with access to cadavers) (+ 2-hour lab)

EXP 3331 Exercise Physiology (+ 2-hour lab)

EXP 3332 Physiological Assessment (+ 2-hour lab)

EXP 3334 Cardiopulmonary Rehabilitation

EXP 3322 Biomechanics

EXP 4438 Exercise Electrocardiography (+ 2-hour lab)

EXP 4431 Advanced Exercise Physiology (+ 2-hour lab)

EXP 4436 Exercise Physiology Research I (+ 2-hour lab)
EXP 4555 Internship

As oppose to four courses in the exercise science curriculum that defines the exercise science major, the exercise physiology students at St. Scholastica take 10 courses. Also, as noted, seven of the 10 courses have a required 2-hour lab. This in itself demonstrates that exercise science degree is not an exercise physiology degree. It is so obvious that there can be no grappling with uncertainty about this point. Unfortunately, the magnitude of this problem is not being addressed by mainstream academics. The problem is that today's thinking is still being influenced by past thinking and experiences. The experts on decision-making call it anchoring. If the college teachers don't get the big picture, why would anyone expect students to play a role in thinking things through? Perhaps, part of the answer lies in thinking through the economic crisis that students face at graduation with an exercise science major.

The ASEP leaders believe it is now the responsibility of the students to wake up and say to the department chairs and faculty, "I should not have majored in exercise science." Or, better yet, students could say, "I'm not going to major in exercise science because it makes no sense to do so." It should be an easy decision, yet the degree program persists because students receive the wrong information. For example the following caption was taken from a university web page (<http://www.capital.edu/1636/>): "*Designed to help prepare students for further study in the allied health/medical field, the exercise science major is the newest course of study in the health and sport sciences department.*" In other words, graduates are not being prepared for a job but for "further study" – meaning graduate school in a different major that may prepare them for a job in the public sector.

Another example is the Rutgers University web page (<http://www.exsci.rutgers.edu/>). It might be viewed as the icing on the cake: "Upon completion of the undergraduate program, students are qualified for graduate programs in medicine, exercise physiology, physical or occupational therapy, cardiac rehabilitation, corporate fitness, athletic training, nurse practitioner, physician assistant, etc." Here again, only 44% of the statement accurate. The question is this: Was there any mentioning of a career opportunity immediately out of college? The answer is No. The department web page also states the following: "The Exercise Science program has approximately 300 undergraduates, approximately 20% who are pre-med, 50% who are pre-PT or pre-OT, with the remainder equally distributed in exercise physiology, cardiac rehab and corporate fitness." Imagine, at least 245 (82%) of the pre-med students and pre-PT and pre-OT students will graduate without a job! Eighty-two percent of the students and their parents will have spent their money on a defective degree only to return to college with higher tuition and, very likely, higher living costs.

When an academic web page states that the exercise science major provides a pre-professional background for those interested in pursuing physical therapy, occupational therapy, medicine, and other health-related professions, students aren't aware that it is not a career-driven major. Granted, while college and universities have done little to make changes in this kind of thinking, those responsible for the integrity of the academic

programs must speak up. A college education should position graduates with an income that makes sense with the required costs. Otherwise, not being able to land a job to pay tuition loans is just the tip of the iceberg. Sure, college graduates do earn more than high school graduates, but only if they locate a job. Exercise science and numerous other related degrees are not a wise investment. Imagine this: A recent graduate has a \$60,000 college loan, but is only able to find low-paying jobs and most of them have no healthcare benefits. Sounds familiar? Still further: Imagine that the loan has passed \$100,000. The bottom line is rather simple and to the point: Parents, if your children major in exercise science, do not encourage them to take out a big loan. They will not make enough money to pay it back. It simply can't be done while employed in low-paying service jobs.

Two things are clear at this point. First, students should think hard and long before majoring in exercise science. There is no career path. There is no way to deal effectively with the economic challenge of thousands of dollars in loans. There is no way to earn sufficient money to survive in the real world. Second, department chairs and the faculty should deal with this problem by upgrading exercise science to a credible exercise physiology major and, then, come together and share in the work of supporting the professional development of exercise physiology as a healthcare profession through the ASEP organization. After all, exercise is medicine and exercise per se is power, but it has to be packaged and marketed in accordance with decades of established professional policies and procedures. This is the only solution to the urgency of the situation.

For sure, without disrupting the rhythm and comfort of the exercise science faculty, the established thinking will continue to exist. The solution is to change the way the faculty members think as college teachers. Meaning, amidst all of the research, there tends to be too little genuine interest in teaching and the intended outcome – a viable job in the public sector. The bng-cherished assumptions of being recognized as a researcher are not inappropriate unless they get in the way of excellence in teaching and in caring for students. Existing thinking that is ever-present among faculty members to present their research at national meetings and conferences isn't bad at all, but allowing the emphasis to take precedent over quality teaching is bad. When it happens, which is everyday in academic classes all across the United States, it is wrong and less than professional. Also, as a result of failing to update exercise science to exercise physiology, the failure itself encourages a climate of miscommunication and lack of creativity.

Everybody understands the problems that result from high gasoline prices. More people find themselves influenced by the economic disaster in the United States than ever before. There are real problems, most of which are financial. From Hurricane Katrina to consumers who can't buy food or clothing they need for either themselves or their families, price gouging is real [2]. This is true in education as well. "No" -- you say, "No one would overcharge students, right?" Wrong. Wrong on so many fronts because a college education is expensive, and part of it is defective. My point is this: If the exercise science degree yields limited to no credible salary after graduation, then, it is defective. As a product purchased by the consumer, the student, the academic degree should work. It should yield a credible job in the public sector.

The economics of a college education is a mixed bag of emotions. No one cares much for anything without value. If it cost a lot, it must be good. Everybody seems to want more bigger and better things. People in general value a car or a house with a big price. Frankly, that is all part of the big world view. But, regardless of the price of an item, it should have value beyond the diploma. This is why the bachelor's degree in exercise science should not be presented with mixed, confusing, and oftentimes simply incorrect and misleading messages. Personally, I believe it is intentional misrepresentation. Hold that thought for a moment. Did you say "intentional?"

Henry Cheeseman, author of *Contemporary Business and Online Commerce Law*, says "One of the most pervasive business torts is intentional representation. This tort is also known as fraud or deceit. It occurs when a wrongdoer deceives another person out of money, property, or something else of value." He indicates that the elements required to find fraud are: (1) the wrongdoer made a false representation of material fact; (2) the wrongdoer had knowledge that the representation was false and intended to deceive the innocent party; (3) the innocent party justifiably relied on the misrepresentation; and (4) the innocent party was injured. In my opinion, there is little question that exercise science web pages of many academic institutions are a false representation of the content, that either the faculty and/or chairperson has knowledge that the representation is false and intended to deceive to keep the student numbers high, that students have little reason not to believe what is written on the web pages and, in fact, end up graduating only to be hurt financially if not also emotionally.

Today's annual tuition at state universities is (on average) \$12,000 and \$25,000 and up at private schools. Naturally, there is a point where college tuition should not continue to rise as it has relative to the general inflation rate. At some point the tuition inflation will simply have to stop rising faster than the overall inflation rate. It doesn't appear that college administrators get this thinking, however. Why? Because in 43 of the last 49 years, college tuition inflation has exceeded the nation's inflation rate [2]. No wonder students are borrowing more and more money to attend college.

Students need to be told that tuition loans are real. They will have to be paid. Surely, the reader has heard the expression, "Buyers' remorse." Okay, how about this not so little fact of life for many college graduates? Graduates are paying \$500 and \$700 a month (often at 6% interest for 20 years) on student loans! Shouldn't students with an interest in athletics or fitness, who often by default major in exercise science, know about these things before they get too deep in debt? In addition to what the colleges and universities can do to control costs, shouldn't guidance counselors engage high school seniors in this discussion? Shouldn't students get the big picture up front long before they get too invested? It would seem to make sense, especially for the students who are assuming the total costs of their college education. Once again, think about it. There are students graduating with \$90,000 and more in college loans. Hello, is anyone listening? That is a ridiculous amount of money to pay for a college degree.

Here is an idea! Why aren't colleges and universities required to control their costs? Perhaps part of the answer lies in the simple fact that healthcare in the United States does

understand the words, “Cost containment.” No business wants to contain costs. After all, costs to the students represent profits to the college or university. Whether it is textbooks, room and board, course tuition and lab fees, and other costs (such as cell phones, credit card, cars, and parking) at state or private schools, often the parents spend huge chunks of their income to pay for their children’s education. In return they expect their children to get a job and move on with their lives after graduation. They expect the degree program to be free of defects. When this isn’t the case, parents become frustrated when they realize they have been tricked or deceived [3].

Meanwhile, the cost of a private four-year college rose to \$34,132 on average for the 2008-09 academic year and students at in-state public four-year schools paid an average of \$14,333 for the current school year. According to Musante [4], that is an increase of 5.7% from the previous year. This information was the conclusion of the College Board, a non-profit association of more than 5,400 schools, colleges and universities. Out-of-state students at public four-year schools pay a total of \$25,200, up 5.2% from last year. These figures include tuition and fees plus room and board. Musante [4] concluded that after factoring in the average \$10,200 of grants and tax benefits, the tab for private-school students fell to \$23,932. Full-time undergrads at public four-year schools received about \$3,700 in aid and benefits, which lowered the actual cost of attending public schools to \$10,633 or \$21,500 for out-of-state students.

Not only is the price high to attend college while dealing with the inflation-adjusted dollars [5], apparently a great many students in exercise science and related degree programs don’t realize the gravity of the situation. Across the board, it should be clear that all federal loans and grants become a burden when – “Surprise, where are the jobs?” Students are clueless and that is the problem. Now, with state budget cuts [6] affecting tuition. The only thing that makes sense is for students and parents to know what they are paying tuition dollars for. But that might not be enough to take the sting (injury) out of the defective product. The academic exercise physiologists must step up to the plate and tell the administrators that change is necessary if they are going to get out of the fraud business. It is not likely that this will take place very rapidly. Change is a process, and despite obvious problems, choosing to change isn’t easy within the inertia of an existing way of thinking.

According to recent reports from the College Board [7], about 56% of students attend four-year schools with annual tuition and fees below \$9,000. To use this figure however, the total is probably still over \$35,000 for four years. Here again, the product should not be defective. The College Board indicated that 38% of the full-time students in public four-year colleges and universities are paying tuition and fees between \$3,000 and \$6,000. Still, the total tuition and fees is closer to \$15,000 to \$20,000. While private four-year institutions have a much wider range of tuition and fee charges, only about 9% of all students attend colleges with tuition and fees totaling \$33,000 or higher per year or, as viewed over four years, \$132,000 or more!

While it is generally accepted that people with a bachelor's degree earn over 60% more than those with a high school diploma, and while over a lifetime, the gap in earning

potential between a bachelor's degree and high school diploma is more than \$800,000, this is only true if the graduates are working in jobs that pay well. In other words, the financial sacrifices are not made up after college if the degree program is not career-oriented. Students are not getting a solid education at a good cost value from colleges and universities that offer exercise science or kinesiology degrees. That is why it is time to examine the present belief that the exercise science degree is worth the price. It is scary enough to lose a job, but to not find a job after graduation is worse. Uncertainty itself makes parents, students, and others wonder if the educational system itself will survive without real changes in strategy.

The implications are far reaching. They mandate a break in the structures and behaviors that sap the enthusiasm from the study and application of physiology of exercise to health and athletics. That is exactly why the following statement retrieved on 2/15/09 from <http://www.utk.edu/academics/programs/08/ExerSci08.html>, the University of Tennessee – Knoxville, TN website makes no sense: *“Coursework in exercise science prepares you for the job market or for further schooling in exercise science and/or health related fields such as physical therapy, medicine, and occupational therapy.”* Just to reinforce this point, read the following statement retrieved 2/15/09 on Skidmore College's website (<http://cms.skidmore.edu/exercisescience/majors/index.cfm>): *“The bachelor of science degree in exercise science is designed to prepare students for graduate study and careers in exercise science and allied health fields. The exercise science major serves as the academic foundation for advanced studies in several sub-disciplines of the field, including: exercise physiology, bioenergetics, nutrition, sports medicine, biomechanics, and kinesiology. The major can also serve as the academic foundation for advanced study and careers in medicine and allied health fields, including physical therapy, chiropractic medicine, and physician assistant work.”*

Again, while the University of Tennessee statement says, “...prepares you for a job....” there is no mention of a job much less a career after college in the Skidmore statement. Again, what does “prepares you for a job” mean? What job? Is a job a career? What is the connection to the degree and a career in healthcare? For comparison purposes, the physical therapy degree prepares the students for a career in physical therapy. Essentially every college or university that offers the exercise science major states that with additional coursework exercise science students may qualify for graduate programs in physical therapy, occupational therapy, chiropractic, athletic training, dentistry, medicine, and optometry, pharmacy, or veterinary medicine school. Students are also told that after graduation they can pursue immediate employment in areas such as cardiac rehabilitation, sports nutrition, and massage therapy, or become a medical technologist, chiropractor, fitness coordinator/director, personal trainer, or an athletic team coach. Again, while fitness instructor and trainer are logical, neither one is a financially stable career. What is obvious is the untruth across the bulk of the statement. It is profound. Students can't just start immediately as a medical technologist without proper certification. They can't practice chiropractic work with a degree in the same. Also, it should be pointed out that exercise science graduates are ill-prepared to work with cardiac rehabilitation patients, which is also true for careers in exercise physiology, biomechanics, sport psychology,

and motor learning. In the end, they and very likely their parents spent a lot of money for a meaningless degree. The assumed importance of the degree is all an illusion.

Wang [8] raises exactly this concern. Referring to students, when anticipating a career in public service, the following example was used: "Graduate, good luck with that. Given the steep price tag for a Wesleyan degree (\$200,000 for four years) and the substantial amount...borrowed to pay those bills (\$21,500 for the average student, with some families carrying loans of \$50,000 or more), choosing a profession that often pays less than \$30,000 a year might be, well, let's just say a bit of a financial challenge." Wang [8] also concludes that, "For more than two decades, colleges and universities across the country have been jacking up tuition at a faster rate than costs have risen on any other major product or service - four times faster than the overall inflation rate and faster even than increases in the price of gasoline or healthcare. The result: After adjusting for financial aid, the amount a family pays for college has skyrocketed 439% since 1982."

The real eye-opener is that most administrators, faculty members, and students of exercise science and related physical education degree programs aren't even discussing the tragic illusion of exercise science [9]. Parents don't put up the money for college in the belief that their investment will someday bring their children riches. Rather, they look forward to the payoff of children landing a good job. If departments continue down the exercise science path as they have for decades, it is reasonable that to conclude that the students have reached a point where the financial investment isn't worth it. The critical question for academic exercise physiologists to ask when it comes to the exercise science major is this: Do they and the department chair know what they have done and, if so, do they plan to continue doing it?

Recently, a colleague from another department asked the question: Do the faculty know that exercise science is little more than jargon and gibberish? This may be considered harsh, but it is reality. If academic exercise physiologists were to celebrate the importance of quality academic degree programs, there would be less propaganda woven throughout the faculty logic and dubious undergraduate degree programs. Above all, the strongest criticism is that the tuition dollars are simply too high for spending academic class time engaged in non-career driven degree programs. When Abraham Lincoln was elected to Congress, he was given a form requiring him to describe his education. He wrote one word, "Defective." Sounds familiar? Well, there is one thing that is certain. It is that right out of the gate an exercise science graduate will pull a smaller starting salary than his or her friends who majored in business or a technical field.

Is it possible that college has become worthless, but only if students find themselves in an academic major without leadership to give it purpose and direction? Welch [10] says, "Given that most students attend school full-time, one might also add to those figures the cost of lost wages, which could easily be another \$100,000, thus bringing to the "true cost" of a college degree to somewhere between \$150,000 and \$230,000 dollars. That's quite a hole." This is especially the case when you walk into a gym or fitness facility and meet personal trainers who spent years in college, only to end up in a job that (for the most part) does not require a college education. Worse yet, student athletes often deceive

themselves into thinking just any college degree will do. That's why they spend little to no time asking the following questions:

1. What career opportunities are associated with this academic degree?
2. Is this major part of a discipline or a profession?
3. What are the starting salaries for a bachelor's degree?
4. Are classes taught in large lecture halls by TAs or in smaller class rooms by professors?
5. Are the professors hired to promote research or teaching?
6. Are the professors held to a high standard of teaching?
7. Is critical thinking, writing and problem-solving a critical part of the academic major?
8. Is the academic major accredited by the appropriate accrediting agency?
9. What percent of the majors graduate in four years?
10. Are the number of courses appropriate for the academic degree (i.e., to avoid requiring five years or even six years to graduate)?

Department chairs and faculty, particularly exercise physiologists (who often encourage students majoring in exercise science to think of themselves as exercise physiologists) should be held accountable for the defective academic product, that is, the exercise science and related majors. There are simply too many students graduating every year with little benefit for the time and money spent. The big danger for students is that nothing will change until the faculty and administration decides to get back to the original idea why academic institutions exist in the first place. Clearly, if they don't change soon, the student's investment in a college degree will not result in a better quality of life.

References

1. Twohey, M. (2008). College isn't always a sound investment. *Chicago Tribune*, Sunday, October 26. [Online]. Retrieved on February 14, 2009, <http://www.commercialappeal.com/news/2008/oct/26/college-isnt-always-a-sound-investment-focus/>
2. Huffman, M. (2007). Why does college costs so much? *ConsumerAffairs.com* [Online]. Retrieved on February 14, 2009, http://www.consumeraffairs.com/news04/2007/02/college_costs.html
3. Flashnick, B. (2007). Lawmakers take aim at college costs. *USAToday*. [Online]. Retrieved on February 14, 2009, http://www.usatoday.com/money/perfi/college/2007-11-19-college-costs_N.htm
4. Musante, K. (2008). College costs rise. *CNNMoney.com* [Online]. Retrieved on February 14, 2009, <http://money.cnn.com/2008/10/29/pf/college/college/index.htm>
5. Bodnar, J. (2007). Surprise! More college costs. *Bigwords.com* [Online]. Retrieved on February 14, 2009, http://www.bigwords.com/press/20070801_kiplinger/

6. Grimes, C. (2009). College tuition will likely jump. *Dailypress.com* [Online]. Retrieved on February 14, 2009). http://www.dailypress.com/news/dp-local_collegefunding_0129,0,1685764.story
7. *College Boards*. (2009). 2008-09 College prices: Keep increases in perspective. [Online]. <http://www.collegeboard.com/student/pay/add-it-up/4494.html>
8. Wang, P. (2008). Is college still worth the price? *Money Magazine*. [Online]. Retrieved on February 14, 2009, http://money.cnn.com/2008/08/20/pf/college/college_price.moneymag/index.htm
9. Boone, T. (2007). Tragic illusion of exercise science. *Professionalization of Exercise Physiologyonline*. 10:10 [Online]. Retrieved on February 14, 2009, http://faculty.css.edu/tboone2/asep/Tragic_Illusion_Exercise_Science.html
10. Welch, B. (2007). College degrees: What's there real value? *Content4reprint.com* [Online]. Retrieved on February 14, 2009, <http://www.content4reprint.com/culture-and-society/education/college-and-university/college-degrees-whats-their-real-value.htm>