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Relationship between Step Counts, BMI, and Abdominal Circumference in Middle Aged and Older Females.

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It is well known that individuals who are more active have better protective effects against cardiovascular disease. Lower BMI and abdominal circumference is also associated with protective effects against cardiovascular disease. These statements have been identified in almost all population. **Purpose:** To identify the relationship between daily physical activity and BMI as well as abdominal circumference in a low income, middle age to older female population. **Methods & Procedures:** Thirty two females (Age = 50.8±12.8 yrs, Height = 158.0±6.4 cm, Body Weight = 83.0±15.8 kg, BMI = 33.3±6.8 kg/m², Abdominal circumference = 103.9±15.3 cm) wore a hip-mountain pedometer (Omron HJ-113) for seven days and then had height and weight measured with a Seca S-214 height rod (Hanover, MD) and a Detecto DR400C platform scale (Webb City, MO), with no shoes. Abdominal circumference was measured with a standard flexible measuring tape. A Pearson’s Product Moment correlation was used to assess the relationship between the variables. Data was analyzed using SPSSS v23. Alpha was set at .05 for all correlations. **Results:** Pearson’s Product Moment correlation indicated a significant negative relationship between BMI and pedometer step counts, $r_{(30)} = -.54$, $p = .001$. There was also a significant negative relationship between abdominal circumference and pedometer step counts $r_{(30)} = -.56$, $p = .001$. **Summary:** As expected, in a low-income, older female population, less active individuals have greater BMI and abdominal circumferences compared to their more active counter parts. Health care providers for these individuals should stress the importance of accumulating daily physical activity for lowering the risk of cardiovascular disease.
Learning styles differ among individuals in different disciplines and motivation for learning can also vary among these individuals. It may be that motivation for kinesiology students, since it is primarily a movement-oriented discipline, differs from other disciplines, such as education, that are primarily non-movement-oriented. Purpose: To determine if a difference exists in motivational strategies for learning between kinesiology and education majors. Methods & Procedures: One-hundred thirty eight college students (26.9±5.2 yrs, 66.3±3.9 inches, 175.2±47.9 lbs) signed an informed consent and completed the Motivated Strategies for Learning questionnaire (Pintrich & DeGroot, 1990) one month into the Spring 2016 semester. This questionnaire contained 44 questions that examined self-efficacy, intrinsic value, test anxiety, cognitive strategy use, and self-regulation. Forty two of these students (kinesiology) completed the questionnaire again right before finals to see any changes throughout the semester. A 2 (group) x 5 (motivational category) factorial ANOVA was used to determine differences between groups. A repeated measures ANOVA was used to determined differences at the start of the semester and the end of the semester. Alpha was set at .05. Results: The factorial ANOVA was significant, $F(5, 131) = 3.18, p = 0.01$, with pairwise comparisons showing the only significant difference in motivational strategies between groups is self-efficacy ($p=.003$). Repeated measures ANOVA indicated a significant difference among the categories, $F(9, 33) = 91.2, p = .001$, however, pairwise comparisons did not show any significant differences between the pre-and post-measures in any of the motivational categories. Chronbach’s Alpha indicated good reliability for self-efficacy (.76), intrinsic value (.73), test anxiety (.80), cognitive strategy use (.89) and self-regulation (.74). Summary: There seems to be no difference in motivational learning strategies between kinesiology and education majors except in self-efficacy, which was lower in kinesiology majors. Future studies can include majors in other disciplines and/or across different academic status.
Autocratic or Democratic? High School Athletes’ Coaching Style
Preferences by Sport

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The National Federation of State High School Associations (2015) reported the
total number of participants in high school sports had increased to 7.8 million. Coaches are
required to meet that need, but what coaching style do athletes prefer? A variety of
coaching styles can be seen in the realm of sport. Whether athletes prefer the
demanding style of Bobby Knight or the laid back guidance of Phil Jackson depends
on the preference of the athlete. Two distinct styles of coaching have emerged from
previous research: autocratic and democratic. An autocratic coaching style has the
coach making all the decisions, whereas the democratic coaching style shows the
coach sharing the decision making with the players. The purpose of this study was to
examine which coaching style high school athletes preferred based on their sport
participation. Upon IRB approval, student athletes in a 5A high school in south Texas
were surveyed using the Leadership Scale for Sports (Chelladurai & Saleh, 1980). A
total of 315 (n=127 females; n=188 males) athletes participated with the ages ranging
from 14 to 19 years. Although the Chi-Square results showed no statistical
significance, $\chi^2 = 0.142$, $p = .706$, between sport and current coaching style,
frequence data showed an interesting trend for experienced athletes. Initial responses
for male athletes showed they preferred an autocratic coaching style and the females
preferred a democratic coaching style. Experienced athletes had different preferences
from beginning athletes. Interestingly, males migrated from autocratic to democratic
and the females went from democratic to autocratic. Male athletes increased
democratic preference: Football (from 45.9% to 59.5%), Baseball (49.4% to 61.4%),
Basketball (38.1% to 63.5%), and Track & Field (44.1% to 66.15%). Male athletes
slightly decreased democratic preference: Track & Field (from 69.8% to 53.5%),
Volleyball (65.8% to 52.6%), Softball (63.6% to 54.5%), and Basketball (no change, 57.8%). Different athletes respond to coaching in different ways. Coaches should
strive to be flexible in their approach and able to change styles when appropriate to
the situation, the needs of the players, and to maximize team performance (Crust &
Lawrence, 2006). Player preferences of coaching behavior can affect both their attitudes
toward their sport experiences and team performance (Steward, & Owens, 2011). This
could be done by coaches simply getting to know their athletes and understanding what
works best with that particular group of athletes. To achieve this, future research should
explore coaching styles and whether a paradigm shift from autocratic to democratic
style preference is occurring. Perhaps millennial athletes seek a different coaching
style than athletes who trained and competed four decades ago.
Easy Going or Hard Core? High School Athletes’ Perceptions of Various Coaching Styles

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What makes an athlete want to give his/her all to satisfy their coaches? Moreover, what makes an athlete prefer a certain coaching style? When examining coaching styles, two particular styles often emerge: democratic and autocratic. Chelladurai and Saleh (1980) stated that an autocratic coaching style doesn’t allow the athletes to have a say because the coach makes all the calls and a democratic style allows the athletes to have a say in what should be done. In simple terms, autocratic is more of the telling approach when democratic is more of the asking approach. Coaches wield strong influence over their athletes; therefore, their leadership skills form a vital element of their coaching. Research has reported coaches would notice that some athletes take to different coaching styles (Smoll & Smith, 1999). Research has also found both male and female athletes preferred an autocratic coaching style. Premier league footballers wanted the coach to tell them what they did wrong rather than just not addressing the situation at all (Hoigard, Jones, & Peters, 2008; Sunjjal & Dhurup, 2012). The purpose of this study was to identify athletes’ preference of coaching leadership style and to determine whether there were any differences in the leadership preferences by male and female athletes. Upon IRB approval, 315 (N = 315) student athletes from a 5A high school in south Texas were surveyed. Of those athletes, 59.7% were male (n = 188), 40.3% were female (n = 127) and their ages ranged from 14 to 19 years. Preferred coaching styles were measured using the Leadership Scale for Sports (LSS; Chelladurai & Saleh, 1980). A one-way analysis of variance (ANOVA) was calculated on beginning athletes’ perceptions of coaching style ratings. The results were significant [F (1,313) = 11.195, p = .001]. Female athletes found a democratic coaching style more preferable (m = 68, sd = 1.49). Results for experienced athletes was not significant [F (1,313) = .376, p = .540]. Female athletes now preferred an autocratic coaching style (m = 1.49, sd = .795) as well as their male counterparts (m = 1.54, sd = .755). As they started, males and females differed, but as they gained experience both preferred an autocratic coaching style. This study supports the findings of Helnreich and Spence (1976) that male and female athletes are more alike than different when considering coaching style. Coaches have great influence on their team and the coach’s leadership style has a profound effect on athletes’ performance. This study found that athletes wanted a coach who was better at telling them what they need to fix (autocratic coaching) and females changed their coaching style preference once they had gained experience. Today’s world is different than it was four decades ago when coaching styles were first investigated. Perhaps sticking with the status quo deserves another look, particularly when it comes to coaching millennials. With the growing pressure for coaches to post a winning record, the stage has been set for additional research to not only improve coaching style, but to improve athletes’ performance and the success of the sport program. Future studies could investigate whether there is a difference regarding coaching style preference for millennial athletes. Further exploration into coaching style is warranted to determine if an age or gender gap exists and more importantly, whether female athletes prefer a female coach and how receptive male athletes would be towards a female coach.

Key Words: autocratic, democratic, coaching style, high school athletes
Influences of Activity Types on Exercise Motivational Profiles and Behavioral Frequencies among College Freshmen
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Introduction: Recent US national health data showed that 43% of high school seniors met the recommended physical activity guidelines (Kann et al., 2014), whereas less than 10% of college students met the same standard (Small et al., 2013). Examining exercise motivation and behavior during the transition to college is important to reverse this trend. Self-determination theory (SDT; Deci & Ryan, 1985) is a prominent theoretical framework to study exercise motivation and behavioral indicators. SDT proposes that intrinsic goals and the satisfaction of psychological needs (autonomy, relatedness, and competence) are critical in promoting self-determined (autonomous) motivation and healthy lifestyle. Although ample findings have shown evidence on college students’ exercise motivation and behavior, a dearth of research has examined the differences in motivational profiles and behavioral frequencies across physical activity types.

Methods: Participants were 188 college freshmen (M \text{age} = 18.10 \text{ years}; 76 males, 112 females) from a public university in Texas. They completed an online survey consisting of demographic information, SDT variables indicating exercise motivational profiles (goal contents, need satisfaction, and motivational regulations), as well as exercise behavioral indicators including activity types and exercise frequency of various intensities (vigorous aerobic exercise, moderate aerobic exercise, and muscle-strengthening exercise). To examine the differences across activity types, participants were categorized into four groups based on their regular activity choices: sport participation (SP; n = 73), non-sport strength training (PT; n = 38), aerobic exercise (AE; n = 63), and other (n = 14). Two separate descriptive discriminant analyses (DDA) were performed for motivational profiles and for exercise frequency variables among three groups (SP, PT, and AE), resulting in two functions for each variable set to identify group differences.

Results: The results of the DDA indicated a significant full model of Function 1 to 2 for motivational profiles (\text{Wilks’ } \lambda = .81, \chi^2 (14) = 35.80, p < .01) and for exercise frequency (\text{Wilks’ } \lambda = .90, \chi^2 (6) = 15.99, p < .05), respectively. Function 2 of both DDA were not statistically significant and thus not interpreted. Standardized discriminant function coefficients and structure coefficients in Function 1 showed that competence (r = .70), intrinsic goals (r = .56), autonomous motivation (r = .48), and relatedness (r = .35) contributed to most of the group differences in motivational profiles. Further, vigorous aerobic exercise (r = .88) and muscle-strengthening exercise (r = .76) contributed to most of the group differences in exercise frequency. Specifically, SP had the highest group centroid and AE had the lowest group centroid in both DDA, revealing significant differences in the mean scores of abovementioned variables. The effect sizes of the composite score differences in motivational profiles (Cohen’s \text{d} = .86) and in exercise frequency (Cohen’s \text{d} = .66) were large and medium, respectively.

Conclusion: The significant differences across physical activity types suggest that college freshmen who primarily participate in sport generally have better motivational profiles and higher overall exercise frequency than those who primarily do aerobic exercise. These differences are discriminated mostly by higher competence, intrinsic goals, autonomous motivation, relatedness, as well as higher frequency of vigorous aerobic exercise and muscle-strengthening exercise. Therefore, physical activity programs in college should educate freshmen the benefits of sport participation and strength training beyond aerobic exercise engagement. In addition, recreational sport opportunities such as intramural and club sports need to be provided inclusively across skill levels in order to enhance intrinsic motivation and exercise participation among freshmen.
A Quantitative Analysis of Strength and Conditioning Facilities in Texas High Schools

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The general health and sport performance benefits of resistance training are well documented and the need for such training has been accepted by athletes, coaches and the mainstream population. This has led to an increased demand for strength and conditioning facilities (SCFs) in many settings including for-profit gyms, not-for-profit recreational facilities (YMCA, community centers, etc.), and in schools (universities, junior colleges, and high schools). However, there is a tremendous lack of specific, descriptive or quantitative research regarding SCFs in general and more specifically at the high school level. Developing an understanding of the SCFs and how they are operated can assist in optimizing the impact of these resources.

Methods: In order to gather descriptive and comparative information regarding the prevalence, size, equipment, and staffing of SCFs in Texas high schools, an online survey, based upon the model by Petersen and Judge (2008), was distributed to the athletic directors of each high school in the state. A total of 245 schools (Public, n = 206; Private, n = 39) completed the survey.

Results: Dedicated SCFs were present in 95.1% (n = 196) of the public schools, 84.6% (n = 33) of the private schools, and 93.5% (n = 229) of the total schools. The mean square footage of these facilities was 3460.54 ft². Comparisons of University Interscholastic League (UIL) classifications (1A-6A) revealed significantly larger facilities in 6A schools than in all other classifications (F = 8.313, p < .001). No significant differences in facility size were found between the other five classifications; however, a significant positive correlational relationship between total school enrollment and SCF size was determined (r = .336, p < .001). Equipment types reported for these SCFs included: 98.7% free weights, 33.1% selectorized weight machines, 59.6% plate loaded weight machines, and 36.3% cardio machines. Additional information was collected regarding specific pieces of equipment in each of the four categories mentioned above.

The SCFs use included athletic teams 99.2%, physical education classes 24.5%, and community member use 30.6%. Staffing of the high school SCFs included a strength coach on the staff of 37.1% (n = 91) of the schools. 25.3% (n = 23) of the strength coaches held a National Strength and Conditioning Association (NSCA) certification and 35.2% (n = 32) held a strength certification from another organization. The only significant difference in school year and summer staffing levels between the six classifications occurred between 5A and 1A schools. 5A schools had significantly higher (F = 2.530, p = 0.033) full-time staffing during the summer than 1A schools.

Conclusions: The basic descriptive and comparative data presented in this study provides important information to the high school sport administrator for the space planning, equipping, and staffing of SCFs in Texas high schools. Further study regarding changing trends in equipment use and the impact of specialized training for coaches on SCFs would be warranted.

Statement of the problem: Floorball, a type of floor hockey, is one of the fastest growing sports in the world. There is a lack of research related to the physiological responses and health benefits of playing floorball. The purpose of the study was to investigate the physiological responses of playing floorball.

Methods: Ten males and six females between the ages of 18 and 42 participated in this study. The study was 7 weeks long. The participants played floorball twice a week for 40 min. Heart rate (HR), lactate (La), and RPE were measured during the play at Weeks 1, 4, and 7. The participants also completed a VO₂max test at Weeks 0 and 7. Differences in VO₂max at Weeks 0 and 8 were compared using dependent t-test. Means and standard deviations for HR, LA, and RPE were also compared. The data were analyzed using SPSS 22 (IBM Corp., Armonk, NY, USA). The level of significance was set at p < .05.

Results: The average HR, maximal HR, La, and RPE were 159 ± 18 bpm, 186 ± 15 bpm, 7.3 ± 4.2 mmol/L, and 13 ± 3, respectively during the 7-week study. VO₂max increased from 36.6 ± 9.0 to 38.4 ± 10.1 ml/min/kg. The increase was statistically significant (p < .05).

Summary of findings: There was a significant increase in VO₂max during the 7-week time period, playing floorball just twice a week for 40 min. The high values of HR, La, and RPE and the significant increase in VO₂max indicate that floorball can be a great way to increase someone’s cardiovascular fitness.
Application of Theory of Planned Behavior among Female University Students With and Without a Vulnerable Condition.

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Background: Only 50.4% of university students meet physical activity (PA) recommendation, and the number is lower for females (American College Health Association-National College Health Assessment, 2014). The Theory of Planned Behavior (TPB; Ajzen, 2005) has identified three salient motivational factors to determine an individual’s PA behavior and intention: attitudes, subjective norms, and perceived behavioral control (PBC). The purpose of this study was to explore PA behavior among two groups of university female students (physically vulnerable group vs. healthy group) with influential factors according to TPB. Group differences were also investigated among these influential factors.

Methods: A cross-sectional design was used and 436 female students were recruited from five universities in Shanghai, China. There were 301 students in healthy group (M_age = 19.1 ± 1.0) and 135 students in physically vulnerable group (M_age = 19.4 ± 1.0). Students were identified as physically vulnerable by certified physicians [i.e., specific diseases (72.6%), disabilities (1.4%) and physical weaknesses (26%)]. Students in each group completed a validated questionnaire assessing three TPB constructs including attitude, subjective norm, and PBC, PA intention (Hagger et al., 2007), and PA behavior (Yu et al., 2013).

Results: Results showed that all three TPB constructs were significantly associated with PA intention and PA in both groups (r ranges from .21 to .78). Regression analyses revealed that attitude and PBC served as the most prominent predictors of PA among healthy group (R^2 = .43, p < .001), and PBC emerged as a significant predictor of PA in the physically vulnerable group (R^2 = .41, p < .001). Path analyses supported the mediational role of intention between TPB constructs and PA in the whole sample (χ^2/df = 2.87/2, p = .239; RMSEA = .032; 90% CI [.000 .106]). There was significant main effect of group [Wilks’ Lambda = .94, F(4, 431) = 6.47, p < .001]. Healthy group reported higher on attitude, subjective norm and intention than physically vulnerable group (p < .05).

Conclusion: Findings supported the utility of the TPB in predicting PA behavior among both physically vulnerable and healthy female university students, although the strength of association between the TPB constructs varied in each group. Consistent with previous study (Saaty et al., 2015), behavioral intention was suggested as a mediator between PBC and PA in this university female population. It also suggests that TPB-grounded interventions targeting PA promotion should consider specific strategies towards specific group.
The Impact of Teacher Physical Activity on Children During Free Play Time

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It is become evident over the past decade that the lack of physical activity is a major concern for the population at large (CDC, 2014). This lack is a major reason for the increase in overweight and obese children (USDHHS, 2014). The CDC and the American Heart Association recommend children need at least 60 minutes of play time that is not scheduled physical activity (2014). The purpose of this research was to examine whether children’s physical activity will increase if teacher activity increases during unstructured free play time. Students’ physical activity (PA) was determined using the System for Observing Play and Leisure Activity in Youth-Children (SOPLAY). SOPLAY is a validated tool for directly observing physical activity and associated environmental characteristics in free play settings (e.g., recess and lunch at school). SOPLAY provides objective data on the number of participants and their physical activity levels during play and leisure opportunities in targeted areas (McKenzie, 2006). Children and teachers in a West Texas Lab School (mean age = 4.3 years) on a university campus were studied. Control group data (males=13, female=15) was analyzed and Moderate to Vigorous Physical Activity (MVPA) was calculated. Data showed that children spent only 30% of their free-time in the recommended intensity levels. Teachers’ (n=5) overall METs were recorded at 1.13. The experimental group (males=11, female=13) recorded teachers’ (n=6) METs at 2.47 and children MVPA at 44%. Both the MVPA and METs were significantly different (p<.001). The value and importance of unstructured play time is important for children as well as the teachers. Children need time to be creative and explore during play and teachers’ use this free time for various activities including cognitive breaks or administrative work. A stronger push to get teachers moving should be made as this slight increase in METs produces a significant increase in children’s PA.
Did the University of Colorado really win? Current college students revisit the 5th down controversy from the 1990 University of Colorado versus the University of Missouri

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During the 1990 NCAA college football season, the University of Colorado defeated the University of Missouri, 33-31, in a very controversial way. Because of mistakes made by the referees, scoreboard operator, and chain crew, Colorado was incorrectly afforded a 5th down play with only two seconds remaining on the clock. Colorado, who was trailing by four points at the time, scored a touchdown on the game's final play to secure the victory.

The win proved to be critical for Colorado who went on to win the national championship that season. The problem for this study is “a generation later, what do current college students think about the 5th down controversy?” One hundred and sixty five current college students, from a Texas university, were shown a six-minute video (https://mediacosmos.rice.edu/Watch/d4X5Hcg3) that summarized the events of that game including highlights and interviews. The students were then asked to respond yes or no to the following questions:

1. In your opinion, did Colorado really win the game?
2. Colorado ended up winning the remainder of its games that season and was named National Champions. Do you consider Colorado as the National Champions?
3. If, during the game, Colorado was aware that it was receiving an extra down, was it the team’s responsibility to report the error to the game officials?
4. After realizing that it scored the winning touchdown on 5th down, should Colorado have offered to forfeit the game?
5. Colorado ultimately did not forfeit the game, in part, because the head coach felt that the artificial turf put them an unfair advantage. In your opinion, does the slippery turf justify why Colorado decided not to forfeit the game?
6. Should Missouri have been allowed to protest the game?
7. Should the NCAA have been able to overturn the game, and award Missouri the victory, based on the referee’s error?
8. What would Rice University have done had it won a football game under the exact same circumstances? Would Rice University have forfeited the game?

For the purpose of comparison, the subjects were divided into the following demographics: varsity football players, female varsity athletes, males who don’t play varsity sports and females who don’t play varsity sports. Roughly equal size samples of each were selected. All of the participants in this study were between the ages of 18-23 and undergraduates at the institution.

Each question was analyzed using a 2X2 Chi Square (a = .05) for Gender by Response and Athlete by Response results. The only questions that were found to be significant were as follows:

**Gender Differences:** Colorado ended up winning the remainder of its games that season and was named National Champions. Do you consider Colorado as the National Champions? There was a significant association between gender and their response to this question with a substantial portion of the males replying “yes” and a larger number of females rather than males responding “no.”

Should Missouri have been allowed to protest the game? This question was significant with a substantial portion of both males and females responding “yes”, but a higher proportion of the males responding “no.”

No significant associations were found between Athlete – Non Athlete and responses. It was concluded that a number of mistakes were made that resulted in the 5th down being awarded, but there was little association between the independent measures (Gender & Athlete Status) and Responses.
Diet and Physical Activity Patterns In High School Students

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Research has shown that well-designed, well-implemented school programs can effectively promote health and physical activity. However, 23.9 million children ages 2 to 19 are overweight or obese with 33.0% of boys and 30.4% of girls—facing risks for, diabetes, heart disease, stroke, and cancers. Less than 25% of adolescents eat enough fruits and vegetables and 1/3 aren’t physically active. The purpose of the investigation was to determine if the dietary and physical activity patterns of a convenience sample (N= 100) of culturally diverse high school students (n= 70 Caucasians; n = 30 Non-Caucasians), ages 16-18, met the recommended U.S.D.A. guidelines. Twenty-four male and seventy-six female volunteers completed diet and physical activity self-report logs for one week using “My Plate” and exercise guidelines. Data was collected and recorded on the variables of food type and serving size (grains, vegetables, fruit, milk, and meat/beans), physical activity (< or >30-90 minutes daily), age, gender, and race, utilizing descriptive statistics. Results indicated that 71% did not meet dietary guidelines for 5-0 days and were deficient in milk, fruits, & vegetables; 83% of students met guidelines for # days exercised (5-7 days per week); there were no significant differences in variables comparing Caucasians and Non-Caucasians. The majority of students did exercise 5-7 days per week. It is recommended that high school systems’ assess student health needs and implement exemplary nutrition and physical education programs within a comprehensive and coordinated school health program. Assessing the school’s health policies and programs, developing a plan for improvement, developing a Coordinated School Health Program, and developing a School Health Advisory Committee are additional recommendations. School systems promoting health enhancing behaviors in culturally diverse students can help teens understand the importance of healthy weight and lifestyle and increase lifetime health literacy by creating an action plan for their school.
Knowledge of Global Health Issues: How Much Do We Really Know?

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The world is changing and getting smaller as transportation and communication improve. People go from one country to another on the other side of the world within hours. This rapid movement has increased the risk of spreading new viruses like West Nile, Zika, and Ebola to the U.S. (CDC, 2016). The Centers for Disease Control and Prevention and the World Health Organization both post website information and alerts for public awareness, yet much of the public remains uninformed. In addition, previous viruses like smallpox and anthrax are now tested for use as bioweapons (Rogers, 2014). Worldwide overuse and misuse of antibiotics has led to new strains of antibiotic resistant bacteria, or superbugs, which can also move easily across borders, and fewer new antibiotics are being developed to combat them (Krans, 2016). Environmental disasters like Chernobyl, where the negative health consequences once seemed to be localized, are once again a threat as food grown in radioactive soil is sold to unsuspecting nations (Heintz, Vasileva, DeCristofaro, & Pogatchnik, 2016). Unfortunately, these important health issues are rarely heard about. This study examined how much individuals actually know about Global Health Issues. Upon IRB approval, 259 individuals (n=138 females, n=121 males) were administered a 15 item questionnaire which included questions regarding viruses, superbugs, environmental health issues, and bioweapons. Participants were selected across ages from 9-83 years of age. Children who participated were enrolled in a local middle school, young adults surveyed were from a small regional university in the same area, and older people surveyed lived in a local condominium residence. The 15 questions concerned: viruses (6), superbugs (4), bioweapons (3), environmental issues (1) and the government’s ability to protect us from these issues (1). ANOVA results yielded significance for scores by age \[ F(3,255) = 20.831, p=.000 \]. Scores for younger individuals were lower (M=9.33.22, SD=1.69) than for adults (M=12.02, SD=2.00). The mean score across all surveyed was 10.5 and alarmingly, only 48.3% of participants posted a passing score. Of particular concern were the questions about how viruses are spread and how diseases are treated. Younger participants scored lower than older participants, and 42% of all respondents thought there was a vaccine for Ebola, 53% thought MRSA could be easily treated and 59% thought West Nile Virus could be cured with antibiotics. In addition, 78% were sure that the U.S. government is currently developing many new antibiotics. Participants felt amazingly safe from all these threats, probably because they are so poorly informed. Younger people, especially those who are still in school, are not educated about these issues. Schools should make a more concerted effort to raise awareness and educate students, parents, and communities of the potential risks and preventive measures needed to deal with these continually evolving health issues.

Key Words: viruses, superbugs, antibiotics, bioweapons, health issues
Walkability scores in upper east Texas cities and physical activity implications

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Abstract

Physical activity has become an important intervention against overweight and obesity cases globally. Walking has been identified as a component of physical activity that can easily be incorporated into one’s lifestyle. Recent studies on physical activity have focused on promoting walking as a health enhancing endeavor. In 2010, the proportion of Texas adults who reported no participation in leisure time activity (26.7%) was significantly higher than the national average (24.4%). However, many Texans, like most Americans, are sedentary. This study examined the walkability of the environments in 57 cities drawn from upper east Texas. The county capitals were used a framework for analysis. These data were accessed from www.walkscore.com in the fall of 2014. The Walk Score has previously been validated as viable data for establishing the physical activity profile of a community. The walk score helps one to find a walkable place to live depending on preference on accessing certain utilities including physical activity, grocery stores, super markets, restaurants, apartments, schools etc. The Walk Score is a number between 0 and 100 that measures the walkability of any address. The results revealed that 13 (22.8%) cities, had walkable scores that fall in the 0 to 24 category which is car dependent as almost all errands require using a car. Twenty six (45.6 %) cities had scores within the 25 to 49 range that is car dependent as most errands require a car. Thirteen (22.8 %) cities had scores within the 51 to 69 range that is somewhat walkable as some errands can be accomplished on foot. Four (7 %) cities, had scores between 70 and 89, which is very walkable as most errands can be accomplished on foot. Only one city, had a walkable score of 91, which falls in the 90 to 100 range that is a walker’s paradise where daily errands do not require a car. There is a need for promoting non vehicle transport in this region. Walkable neighborhoods offer a variety of benefits to peoples’ health, the environment, and lifestyle. It appears that the way neighborhoods are designed becomes a determinant of whether people are able to walk and use destinations locally. It is recommended that policy makers strive to provide for physical activity friendly environments to accommodate safe walking and biking if the physical activity profile of East Texas counties, as well as elsewhere in the state, is to improve. This is particularly so for school going children who need to have opportunities to walk or bike to school and local parks. This will help in minimizing the impact of the chronic diseases associated with inactivity lifestyles. Physical activity friendly environments are critical to promoting physically active communities.
Character Development through TrueSport Lessons: A Case Study Using High School Soccer Players

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Statement of the Problem: Given the current environment with regard to sports and ethics (think Johnny Manziel, Baylor Athletics, and the Russian Track and Field team), an examination of the role of sport to teach positive youth development (character, moral reasoning and autonomous motivation) seems warranted. The purpose of this research was to investigate the role the TrueSport curriculum on knowledge, character and ethical decision-making, and self-regulated learning on high school soccer players. The curriculum aims to assist students to find their potential through hard work, respect, integrity, and healthy performance strategies in sports and in life.

Methods: Participants were 126 (77 males, 49 females) High School soccer players who participated in the TrueSport lessons lead by their coach. The majority were freshmen and sophomores (66.7%) and Hispanic (79.7%) and Caucasian (19%).

Procedures: Prior to and after the 8-week program, participants responded to five 10-point knowledge tests related to each section of the curriculum, the Perceived Competence Scale, and Treatment Self-Regulation Questionnaire. After the curriculum, each responded to the Athletic Behavior Scale and the Sports Decision-Making survey. Each scale measured one domain related to the purpose of the study.

Results: Statistical differences were found between the pre- and post-tests for each of the five sections related to knowledge, Value Systems, $t(125)=-3.78; p=.000$; Balancing Sport and Life, $t(125)=-4.19; p=.000$; Optimal Athletic Performance, $t(125)=-5.13; p=.000$; Performance-Enhancing Substances, $t(125)=-6.73; p=.000$; and Optimal Nutrition, $t(125)=-3.69; p=.000$. The greatest increase in knowledge was associated with Performance-Enhancing Substances. Participants felt more competent for positive behaviors following the True Sport curriculum, $t(116)=6.68; p=.000$, and increased in the three positive Self-Regulated Learning subscales, Autonomous, $t(112)=-8.19; p=.000$; Introjected, $t(113)=-6.57; p=.000$; External, $t(113)=-6.00; p=.000$; while Amotivation remained the same. Autonomy indicates a behavior has been internalized and integrated into one’s behavior. Introjected and External motivation also result in performance of the positive behavior. Lastly, scores on the Sports Decision-Making scale indicated a high degree of ethics ($M=45.21/60$) and scores on the Athlete Behavior Scale indicate high Pro-Social Teammate ($M=16.00/20$) and high Pro-Social Opponent ($M=7.57/15$) scores.

Summary of Findings: Based on the findings, the TrueSport curriculum appears to be effective for positive youth development among High School soccer players. Knowledge and self-regulation are important constructs to embracing values and healthy behaviors. Closely related to these constructs is one’s perceived competence to behave in a desired manner. All improved as a result of the program. Positive scores were also achieved for sport-related character and decision-making.
Test Predictability for the TExES Physical Education EC-12 Certification Exam #158

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Meeting teacher certification requirements after completing a teacher preparation baccalaureate degree is of paramount importance to students. No student wants to spend years in an undergraduate program and then not be able to teach in the field they studied and prepared for. Therefore, any predictors which may help prepare pre-professional students for certification, are always being sought after by university administrators. The purpose of this study was to analyze a pretest for certification and then determine if the pretest could be a predictor of student success on the TExES Physical Education EC-12 Certification Exam #158. The study was approved by the Institutional Review Board for the Protection of Human Subjects and was retrospective in design. Junior and senior university students completed a standardized multiple-choice pretest containing 80 items. Students were provided immediate feedback on their pretest performance and then encouraged to register for the TExES Physical Education EC-12 Certification Exam #158. Students who did not attempt the TExES certification exam were excluded from the regression analyses. This resulted in 98 students who completed both the pretest and TExES certification exam over a 10-year period. Descriptive results revealed the following scores (mean±sd) for the pretest (59.86±6.04) and (260.15±16.8) for the scaled TExES certification exam score. Item analysis of the pretest revealed a KR20 reliability of $R = .68$. Only one exam item discriminated negatively $r_{pb} = -.02$. Simple regression analysis revealed the following model: 

$$\text{(Overall Scaled Score} = (\text{pretest score} \times 1.495) + 170.649), \quad R = .541, \quad SEE = 14.2, \quad p < .001$$

for predicting certification exam scores. Logistic regression revealed the pretest was also a significant ($p = .006$) predictor for determining whether a student would pass or fail the certification exam; however, this was primarily accomplished by predicting nearly everyone ($n = 97$) would pass the certification exam which most ($n = 89$) did. One additional factor, which negatively impacted the ability of the pretest to predict more accurately, was the difficulty level of the pretest. The mean pretest score of 59.86 (74.8%) indicates the pretest may not have been as difficult as it could have been. In conclusion, the 80-item pretest is an acceptably designed test and a fair predictor of TExES Physical Education EC-12 Certification Exam #158 performance. Student motivation may also have played a role throughout this study, especially in regards to pretest performance.