

PHYSICAL ACTIVITY

Gender Differences Regarding Motivation for Physical Activity Among College Students: A Self-Determination Approach

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Abstract

Previous research has shown a decline in physical activity (PA) across college years, females being less physically active compared with males. Scholars have suggested studies to understand gender differences in PA and to examine motivational processes to facilitate college students' PA. Grounded in self-determination theory, the purpose of this study was to investigate the relationships between college students' exercise motivation and weekly PA participation. The study included 96 college students (33 males, 63 females, aged 18 to 24) in a metropolitan college. Findings confirmed a significant gender difference, with males responding more positively concerning intrinsic motivation ($t = 3.40, p = .001$). In addition, through an analysis of variance, we found level of PA had a significant interaction with intrinsic motivation, $F(1, 94) = 9.45, p < .001$, and identified regulation, $F(1, 94) = 6.45, p = .003$. Furthermore, least

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significant difference tests showed that the differences occurred between inactive and moderately active groups and inactive and very active groups (p values between .011 and .000). Results from this study concerning motivation for PA with this age group support the premise that self-determined motivation is strongly linked to higher PA participation. The findings of this study provide a better understanding of how to assist college-aged students to live a more physically active and healthy lifestyle.

Although a multitude of health benefits have been linked to regular participation in physical activity (PA; Miles, 2007), a majority of Americans do not meet the recommended PA guidelines (Haskell et al., 2007; Troiano et al., 2008). Regular PA has been reported to decline in adolescence, the steepest decline occurring before adulthood (Gordon-Larsen, Nelson, & Popkin, 2004). This lack of PA has partially contributed to the current obesity epidemic, with more than one third of Americans being obese (Ogden, Carroll, Kit, & Flegal, 2012). Although the benefits of regular PA have been well reported (Strong et al., 2005), motivating individuals to initiate and maintain a program of regular PA remains a critical and unmet challenge in 21st century United States.

PA is “any bodily movement produced by skeletal muscles that result in energy expenditure” (Caspersen, Powell, & Christenson, 1985, p. 129). It involves elements of quality, intensity, frequency, and duration of action (Shephard, 2003). Based on the national recommendations, Americans should engage in daily PA of at least 60 min (U.S. Department of Health and Human Services, 2008). However, in a recent meta-analysis of 26 longitudinal studies on adolescent PA, Dumith, Gigante, Domingues, and Kohl (2011) reported that in 22 studies a decline in PA levels was found across ages 9 to 18 years, the decline being steepest between ages 15 and 18 (Caspersen, Pereira, & Curran, 2000). Similarly, convincing research evidence has shown that boys are more active in adolescence compared with girls (Currie et al., 2008). For instance, in the 2011 Youth Risk Behavior Surveillance System (YRBS), the Centers for Disease Control and Prevention (CDC, 2012) found gender differences between ninth and 12th grade students, with females being less engaged in PA compared with males. Furthermore, as these inactive adolescents enter college, they do little to change their PA habits (Gordon-Larsen et al., 2004).

A better understanding of motivation to engage in PA is logical. Self-determination theory (SDT) is one of the most prominent theories to explain human behavior in different life domains, including exercise (Deci & Ryan, 1985). In SDT, the individual's self-determination is affected by the extent to which a person's fundamental needs for *competence*, *autonomy*, and *relatedness* are fulfilled or satisfied. Competence reflects how a person's behavior is effective and how a person feels that he or she has adequate ability. Autonomy, in turn, represents a person's need to be the originator of his or her behavior and to control that behavior. The third need for relatedness reflects the necessity to feel a secure sense of belonging or connectedness to others. If these needs of autonomy, competence, and relatedness are met, they have a positive effect on an individual's well-being and quality of motivation (Deci & Ryan, 2000; Ryan & Deci, 2008).

In SDT, it is assumed that motivation occurs on a continuum from extrinsic to intrinsic motivation. An individual participates in an activity for extrinsic motivation when that activity is connected to the potential reward, such as wealth, grades, status, appearance, or ill-health avoidance. Intrinsic motivation comes from within the person's values, and the activity is innately rewarding to pursue because the person finds it enjoyable (Deci & Ryan, 1985, 2000). In SDT, it is suggested that the level of human autonomy increases toward the intrinsic motivation end of the continuum (Deci & Ryan, 2000). Intrinsic motivation represents the most self-regulated motive in the continuum, and it refers to engaging in an activity because of the pleasure and satisfaction derived from participation. Integrated regulation is the most internalized form of extrinsic motivation. It involves identifying the importance of behaviors, but also integrates those identifications with other aspects of self. Integrated regulations exist when people have fully accepted the identified behaviors by bringing them into harmony or coherence with other aspects of their goals and values. Identified regulation is the next regulation toward the extrinsic end in the continuum, and it occurs when the individual has recognized and accepted the underlying behavior of values or goals. In the continuum, the next regulation is introjected regulation, which determines motivational forces still internal but is influenced by esteem-based pressures to act. These can be, for example, avoidance of guilt and shame or concerns about self and others' approval. External regulation is the purest form of extrinsic

motivation, and it occurs if an activity is done because of external factors such as rewards, constraints, or fear of punishment. The lowest motive in the motivational continuum is amotivation, and it is a state in which people lack the intention to behave and thus lack motivation. Typical for amotivated individuals are feelings of incompetence, expectancies of uncontrollability, and performance of activities without purpose. In SDT, it is suggested that self-determined (intrinsic motivation and identified regulation) motivations are related to adaptive cognitive, affective, and behavioral responses, whereas non-self-determined (controlling; introjected regulation and extrinsic motivation) motivations correlate with maladaptive cognitive, affective, and behavioral consequences (Deci & Ryan, 2000).

These premises have been supported in numerous empirical studies. Maltby and Day (2001) reported intrinsically motivated undergraduate students to be more physically active and have better psychological well-being compared with extrinsically motivated undergraduate students. On the contrary, in a recent study examining college students' PA motivation, Egli, Bland, Melton, and Czech (2011) found that the most popular student motivation was extrinsic instead of intrinsic. Specifically, college students' key motives for exercise were to improve their health status (identified regulation) and ill-health avoidance (external regulation), followed by appearance (external regulation), strength and endurance (identified regulation), and weight management (external regulation). In a recent systematic review in which SDT-based exercise motivation studies were examined from 1960 to 2011, a consistent positive relationship was found between self-determined motivation (intrinsic motivation and identified regulation) and exercise adoption and maintenance (Teixeira, Carraça, Markland, Silva, & Ryan, 2012). Specifically, the results show consistent support for a positive relationship between more self-determined forms of motivation and exercise, with a trend toward identified regulation predicting initial/short-term adoption more strongly than intrinsic motivation and intrinsic motivation being more predictive of long-term exercise adherence. The literature is also consistent in that competence satisfaction and more intrinsic motives positively predict exercise participation across a range of samples and settings for college students (Gao, Podlog, & Harrison, 2012; Harkema, Dierker, Lankford, & Scholl, 2006; Sibley, Hancock,

& Bergman, 2013). Mixed evidence has been found with this age group concerning the role of other motives (e.g., health/fitness and body-related) as well as the specific nature and consequences of introjected regulation (Chung & Liu, 2013; Daley & Duda, 2006; Ferrari, Silva, & Petroski, 2012; Scott, Joyner, Czech, Munkasy, & Todd, 2009).

In previous research, gender differences have been found in college students' exercise motivation (Egli et al., 2011; Gao & Xiang, 2008; Gillison, Standage, & Skevington, 2006). Egli et al. (2011) found that males had a tendency to be more motivated by intrinsic factors, whereas females were more motivated by extrinsic factors. Males were more likely to mention enjoyment, challenge, social recognition, affiliation, competition, and strength and endurance as motivating factors for exercise, whereas females were more likely to state ill-health avoidance, maintain positive health, weight management, and appearance. Gao and Xiang (2008) reported that women tended to calorie watch and that positive affect (enjoyment) significantly decreased between the first minute of exercise and the minute before they reached their ventilator threshold. This results in women working out at a higher intensity and not enjoying exercising at the same rates as men. Finally, Gillison et al. (2006) studied motivation for PA of school-aged children ($M_{\text{age}} = 14.06$) and found that girls experienced greater social physique anxiety and perceived pressure from the media to lose weight. Girls were also less self-determined to exercise compared with boys, which the researchers noted may be a result of their negative body image due to external forces (media). Girls also perceived themselves to be overweight at a greater rate than did boys (43% and 26%, respectively), despite that there was no gender difference in the proportion of overweight individuals (19% boys, 20% girls). Not surprisingly, girls more often reported extrinsic exercise goals (weight control, body tone) than did boys.

This pattern of motivational gender differences to engage in PA continues into adulthood. González-Cutre, Sicilia, and Águila (2011) speculated that gender differences may be a result of women taking responsibility of fulfilling the household duties; frequently acting as the coordinator of the family life; and fulfilling a role of mother, wife, and housekeeper. Women entering the workforce have diminished leisure activity, whereas men's roles have stayed relatively the same, as have their amounts of leisure time spent in PA.

González-Cutre et al. confirmed that male participants were more satisfied in their leisure activities than were women, who reported less leisure time. In addition, women had stronger motivations to exercise because of health, physical condition, and well-being, whereas men's focus pertained to exercising for filling their leisure time and relaxing. Because men and women do not have the same amount of leisure time, women may not be able to enjoy the benefits of exercising that men do. As a result of limited time, women may exercise at a higher intensity to avoid ill-health.

In a recent meta-analysis of 27 studies on SDT investigations, Guérin, Bales, Sweet, and Fortier (2012) looked at studies in which the Behavioural Regulations in Exercise Questionnaire (BREQ) or BREQ-2 was used and reported that although there were varying scores between genders, the differences were not significant among the SDT regulations. Women had higher scores for introjected regulation, but there was no significant difference between men and women in intrinsic motivation scores, which was found in the previous four studies in the literature review (Egli et al., 2011; Gao & Xiang, 2008; Gillison et al., 2006; & González-Cutre et al., 2011). There are clearly discrepancies regarding how gender may affect individual motivation to exercise.

Purpose for the Study

Based on the evidence, there is consensus that young adults' PA participation declines from high school to college (Kilpatrick, Herbert, & Bartholomew, 2005). However, there is a lack of agreement on the relationship between motivation and PA levels of college students (Chung, & Liu, 2013). Although previous research has shown a strong positive relationship between intrinsic exercise motivation and PA adherence, inconsistent findings in regard to extrinsic forms of motivation as well as gender differences warrant further studies. Thus, the purpose of this study was to investigate the relationships between college students' exercise motivation and weekly PA participation. The first aim of the study was to examine gender differences in motivational regulations and PA participation. Based on previous research (Currie et al., 2008; Egli et al., 2011), we hypothesized males to be physically more active and intrinsically motivated compared with less active, extrinsically motivated females. Second,

we wanted to extend the current knowledge base regarding how differently physically active college students differ in their exercise motivation. Based on the tenets of the SDT (Deci & Ryan, 2000), we hypothesized physically active students to be more intrinsically motivated toward exercise compared with extrinsically motivated students. In addition, we assumed that amotivation would be higher within the inactive student group.

Method

Participants

The research sample ($n = 96$, $M_{\text{age}} = 20.76$, $SD = 1.69$) consisted of college students aged 18 to 24 years who attended the same university. There were 33 males (34.4%) and 63 females (65.6%), which is close to the university's demographics (39.9% and 60.1%, respectively). A survey research design was employed during this investigation using a convenience sample at a large university in the Memphis, Tennessee, area. The university's institutional review board approved study protocols. Permission was obtained, which included the requirement for securing informed consent from each participant.

Geographically, higher obesity rates and lower PA participation have been reported in the southern region states within the United States (Trust for America's Health, 2013). Results from the most recent CDC Behavioral Risk Factor Surveillance System show that the nationwide obesity rate is 27.8%, with the state of Tennessee (TN) having a slightly higher 29.2% rate and the metropolitan statistical area of Memphis, TN having an alarming 36.8% (CDC, 2011). In this study, the number of U.S. residents reporting no leisure-time exercise for the last 30 days was noted: U.S. = 26.2%, TN = 35.1%, Memphis = 37.7% (CDC, 2011). These numbers clearly illustrate a disproportionate issue with being physically active in TN and in the Memphis area.

Research Instruments

Motivational regulations. The Behavioural Regulation in Exercise Questionnaire-2 (BREQ-2) comprised the four subscales of Mullan, Markland, and Ingledew's (1997) BREQ assessing external

(four items, e.g., “I exercise because other people say I should”), introjected (four items, e.g., “I feel guilty when I don’t exercise”), identified (three items, e.g., “I value the benefits of exercise”), and intrinsic (four items, e.g., “I exercise because it’s fun”) regulations. In addition, four amotivation items from Mullan et al.’s initial item pool were included (“I don’t see why I should have to exercise,” “I can’t see why I should bother exercising,” “I don’t see the point in exercising,” and “I think that exercising is a waste of time”). Responses were scored on a 5-point Likert scale ranging from 0 = *not true for me* to 4 = *very true for me*. Previous studies have shown the scale to be valid and reliable to measure college students’ motivational regulations in exercise (Crăciun & Rus, 2012; Markland & Tobin, 2004; Vlachopoulos, Kaperoni, & Moustaka, 2011).

Physical activity. To assess the students’ self-report PA, the World Health Organization research protocol was used (King, Wold, Tudor-Smith, & Harel, 1996). The stem preceding the items was, “In the next question PA means all activities which raise your heart rate or momentarily get you out of breath, for example, doing exercise, playing with your friends, going to college, or PE. Sport also includes, for example, jogging, intensive walking, roller-skating, cycling, dancing, skating, skiing, soccer, basketball, and baseball.” Participants were also asked to indicate how often they engage in PA in a typical week on an 8-point response scale (0–7 days of the week). Previous research has shown the PA scale to have acceptable reliability and validity in adolescents (Booth, Okely, Chey, & Bauman, 2001).

Procedures

To recruit participants for the study, an e-mail was sent to randomly chosen instructors from popular undergraduate general education courses as well as undergraduate upper division courses across campus to ask permission to administer a hard copy of the survey within that class. Instructors of record from three classes responded; two courses were general education courses (introduction to psychology and college algebra) and the third class was an upper division exercise science section of an anatomy class. One research team member visited with the instructors to discuss the procedures for conducting the research and then scheduled the administration

and completion of the BREQ-2 and PA scale, which took approximately 10 min for students to complete. Once notified by the instructor, this research team member then revisited the instructors to collect the surveys. Overall, 130 surveys were given to students to complete and 113 were returned (86.9% return rate). Seventeen of these 113 surveys were not used because of issues of noncompliance with the research protocol (i.e., age not 18–24 years or incomplete survey).

Data Analysis

Data analysis was accomplished using the Statistical Package for the Social Sciences (SPSS version 12). Descriptive statistical results, specifically means and standard deviations, were first determined once the final data set was established. Also, Cronbach's alphas were calculated to check for internal consistency. To answer the first research question, that is gender differences, Pearson correlation coefficients and independent *t* tests were conducted. To answer the second research question, students were first divided into three PA categories based on their self-report PA: inactive group, students who were physically active 0–1 times per week; moderately active group, students who were physically active 2–3 times per week; and very active group, students who were physically active more than 4 times per week. This type of activity categorization has been used in large-scale PA studies (McDermott et al., 2007; Sheppard et al., 2011). Second, one-way analysis of variance (ANOVA) with least significant difference (LSD) tests were applied to examine differences based on gender and PA motivational regulation.

Results

Cronbach's alphas, Pearson's correlation coefficients, mean levels, and standard deviations of the variables applicable to answering the first research question are presented in Table 1. The internal consistency of the motivation variables were acceptable alphas ranging from .73 to .88 and .69 to .86, females and males, respectively. Finally, findings that help explore the second research question can be found in Table 2.

Table 1

Summary of Intercorrelations, Means, Standard Deviations, Cronbach's Alpha Coefficients, and the Results of the t Tests for All Variables

Variable	1	2	3	4	5	6	M	SD	α	t test	df	p
1 Intrinsic Motivation	–	.76**	.16	–.36**	–.40**	.52**	3.78	1.01	.88	3.40 ^a	94	.001
2 Identified Regulation	.88**	–	.50**	–.04	–.51**	.51**	3.80	.91	.83	.926	94	.335
3 Introjected Regulation	.31	.42*	–	.33**	–.11	.24	3.02	1.20	.83	–.222	94	.825
4 External Regulation	.01	–.58	.21	–	.17	.04	1.61	.65	.73	–1.091	94	.278
5 Amotivation	–.41*	–.58**	–.14	.12	–	.40**	1.13	.36	.85	1.259	94	.215
6 Physical Activity	.21**	.32	.34	–.27	–.30	–	2.66	1.89	n/a	1.66	59	.102
M	4.45	3.97	2.97	1.45	1.25	3.45						
SD	.68	.82	1.15	.69	.57	1.39						
α	.86	.77	.69	.84	.75	n/a						

Note. Intercorrelations for females ($n = 63$) are presented above the diagonal, and intercorrelations for males ($n = 33$) are presented below the diagonal. Means, standard deviations, and Cronbach's alphas for females are presented in vertical columns, and means, deviations, and Cronbach's alphas for males are presented in horizontal rows. The result of the independent t tests between females and males are presented in the column. Female's values are coded 0 and boys 1.

^aMales' values are statistically significantly higher compared with females'.

* $p < .05$. ** $p < .001$.

Table 2*Results of the Least Significance Difference Test*

Motivation regulation	(I) Weekly activity level	(J) Weekly activity level	Mean difference (I-J)	<i>p</i>
Intrinsic Motivation	Inactive	Moderately active	-1.09	< .001
	Inactive	Very active	-1.16	< .001
	Moderately active	Very active	-0.07	.821
Identified Regulation	Inactive	Moderately active	-0.75	.011
	Inactive	Very active	-1.00	.001
	Moderately active	Very active	0.25	.370

Note. Inactive ($n = 29$), moderately active ($n = 31$), and very active ($n = 36$).

Gender Differences

Intrinsic motivation was significantly and positively correlated with identified regulation ($r_{\text{female}} = .76$, $r_{\text{male}} = .86$) and weekly PA ($r_{\text{female}} = .52$, $r_{\text{male}} = .41$) and negatively correlated with amotivation ($r_{\text{female}} = -.40$, $r_{\text{male}} = -.41$) as well as with external regulation for females only ($r_{\text{female}} = -.33$). Identified regulation was correlated significantly and positively with introjected regulation ($r_{\text{female}} = .50$, $r_{\text{male}} = .42$) and PA ($r_{\text{female}} = .51$, $r_{\text{male}} = .32$) and negatively with amotivation ($r_{\text{female}} = -.51$, $r_{\text{male}} = -.58$). Females' introjected regulation was positively related with external regulation at a significant level ($r_{\text{female}} = .33$). A final significant correlation was a negative result linking amotivation and PA for both genders ($r_{\text{female}} = -.40$, $r_{\text{male}} = -.30$).

Mean level analyses showed that students had moderate to high levels of intrinsic motivation ($M_{\text{males}} = 3.45$, $M_{\text{females}} = 2.78$) and identified regulation ($M_{\text{males}} = 3.97$, $M_{\text{females}} = 3.80$), moderate levels of introjected regulation ($M_{\text{males}} = 2.97$, $M_{\text{females}} = 3.02$), and low levels of extrinsic regulation ($M_{\text{males}} = 1.45$, $M_{\text{females}} = 1.61$) and amotivation ($M_{\text{males}} = 1.25$, $M_{\text{females}} = 1.13$). Independent *t* tests showed that male students had higher levels of intrinsic motivation ($t = 3.40$, $p = .001$) compared with females. Although there were mean differences in weekly PA ($M_{\text{males}} = 3.45$, $M_{\text{females}} = 2.66$), the differences were not statistically significant ($t = 2.9$, $p = .09$; see Table 1).

Differences in Motivation Regulations

A one-way ANOVA was conducted to examine if students with different levels of weekly PA differed in their motivational regulations. To examine if this investigation possessed similar variances for motivational regulation, Levene's tests for homogeneity of variance were applied, with all showing nonsignificant test scores (all F values were between 0.127 and 0.882, p values .722 and .350), which indicates that this assumption was met. A significant effect was found of amount of PA on intrinsic motivation, $F(1, 94) = 9.45$, $p < .001$, and identified regulation, $F(1, 94) = 6.45$, $p = .003$, at the $p < .05$ level for the three conditions based on amount of activity within the past 7 days (inactive, 0–1 days; moderately active, 2–3 days; and very active, 4–7 days). In addition, a least significant difference post hoc test showed that the differences in intrinsic motivation occurred between inactive and moderately active groups ($p < .001$) and inactive and very active groups ($p < .001$) and in identified regulation between inactive and moderately active ($p = .011$) and very active ($p = .001$) groups (see Table 2).

Discussion

The overall purpose of the study was to investigate the relationships between college students' exercise motivation and weekly PA participation. The findings of the study partially support the previous findings (e.g., Currie et al., 2008) and our research hypotheses, pinpointing the gender differences in college students' exercise motivation. In addition, this study extends current literature by demonstrating how differently physically active college students are motivated toward PA. The findings of the study can be used to design motivating PA intervention to facilitate college students' PA and well-being.

The first aim of the study was to examine gender differences in college students' intrinsic and extrinsic motivation, identified and introjected regulation, along with amotivation and weekly PA participation. Participants had moderate to high levels of intrinsic motivation and identified regulation, moderate levels of introjected regulation, and low levels of extrinsic regulation and amotivation. The study partially supports our research hypothesis, revealing that male students have significantly higher levels of intrinsic motivation compared with females. These findings suggest that males are more engaged in PA because of internal factors, such as benefits received from exercise, stimulation, and enjoyment, compared with

females. However, the results from this study are inconsistent with prior research in which the researchers discovered that female college students, when compared with male counterparts, had lower levels of identified regulation and were more motivated to engage in exercise because of external factors (Egli et al., 2011; Gao & Xiang, 2008). Future studies are needed to investigate if this finding can be generalized across other college student populations in the United States. Surprisingly, the study findings did not support our research hypothesis or the findings of the previous studies in which males had higher PA levels compared with females (Currie et al., 2008; González-Cutre et al., 2011). This specific outcome concerning PA participation was possibly due to the small sample size rather than lack of gender differences. Future studies are needed to examine if these differences in intrinsic motivation contribute to PA participation.

The second aim of the study was to broaden what is known about how physically active college students differ in their exercise motivation. Statistically significant differences were found in intrinsic motivation and identified regulation. Post hoc test findings illustrated that these differences emerged between inactive (physically active 0–1 time per week) and moderately active (physically active 2–3 times per week) and between inactive and very active groups (physically active 4–7 times per week). These results support the hypothesis that physically active students are more intrinsically motivated toward exercise compared with inactive students and are in line with the tenets of SDT (Deci & Ryan, 1985), which suggest that self-determined motivation (intrinsic motivation and identified regulation) leads to volitional and long-lasting behavior across different contexts including exercise domain. These results reveal that not high levels of extrinsic motivation, but lower levels of self-determination are typical for inactive college students. Considering the busy life of college students, it may be that extrinsic exercise motives are not enough to alter negative PA behaviors, but more identified value of PA along with intrinsic pleasure are needed to engage in higher levels and amounts of PA. In addition, the differences in intrinsic motivation and identified regulation were between inactive and moderate active and inactive and very active groups and not between moderately active and very active groups. More research is needed to determine the best motivational structure to lead college students to participate in the daily recommended 60 min of moderate to vigorous PA. This information can be used to

create programs that lead individuals to be more physically active on a long-term basis.

Limitations

This study had limitations. First, students' PA was assessed with self-report measures using a one-item response, and therefore, the overall weekly PA levels may be biased. Although the validity and reliability of the World Health Organization's Health Behavior in School-Aged Children study has been shown to be acceptable when measuring PA among adolescents (Booth et al., 2001), adolescents have been found to overestimate the amount of time engaged in and the intensity of PA when self-reporting compared with using more objective measures, such as pedometers and accelerometers (Hussey, Bell, & Gormley, 2007). Second, there was a lack of causal relationships between gender, motivation regulation, and PA due to the nature of the correlational research. Researchers could implement causal relationships in future studies by comparing baseline and posttest results of an experimental and control group. Third, there was a sample size difference between genders. Although in many studies this difference can cause irregularities with the results, the Levene's test scores showed that the variances were similar enough for the findings to be accepted and to show that the homogeneity of variance assumption was met. Finally, the students emanated out of three courses; two were general education courses and one was an exercise science course. The exercise science students most likely were more intrinsically motivated to participate in PA than the other students, and this could have skewed the results.

Conclusions

This investigation of gender differences with motivational regulations for PA, gender differences with self-reported PA, and motivational regulations association with self-reported PA among traditional-aged college students (18–24 years) provides an in-depth analysis of factors associated with exercise motivation and weekly PA participation. These significant findings extend the current literature of the SDT model, specifically within the traditional college student population, on which research is not abundant. The impact of the study is twofold: (1) It provides more breadth to the SDT literature as we examined gender differences between PA and motivation regulation with traditional college students, and (2) the study is unique as we investigated how college students differ in their exer-

cise motivation based on their current participation in PA. With the information added to the breadth of existing knowledge, individuals have a more encompassing understanding of the relationships between gender, motivation regulation, and PA. The new evidence can be used to address current negative health conditions (e.g., obesity, type 2 diabetes) through comprehending the relationship between PA and motivation regulation for this age group. By understanding gender differences in motivation to be physically active and the relationships between motivation regulations and PA, health and exercise professionals can apply the findings and create programs that will lead individuals to be more intrinsically motivated to exercise. Research without application will not change negative health indices, but accurate application of research to create health and exercise programs is an effective strategy. Though many barriers hinder individuals from engaging in proper levels and amounts of PA, research is available to help arm health and exercise professionals to affect the overall well-being of society positively.

Practical Implications

The results from this study advocate for school-based health and physical education programs that engage students physically and promote internal motivation. With rising costs for treating sedentary-related conditions, such as obesity and diabetes (Finkelstein, Trogon, Cohen, & Dietz, 2009), it becomes important for measures to be taken to address unhealthy practices. Quality physical education programs should begin in early childhood and continue throughout the school years. An abundance of opportunities should also be available for PA to be encouraged throughout the school day and within the community. A physically inactive population will only continue to further establish sedentary lifestyles that Americans have developed. Through the investment of quality health and physical education programming, students can learn the importance of PA and develop an intrinsic motivation to be physically active. Within this focus on PA during the school years, youth will be able to find and adopt an activity or sport that fulfills their needs, which may lead to a more self-determined approach toward engaging in PA for life.

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