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ABRIL PACHECO, LAURA; SOTO MAS, FRANCISCO; OLIVÁREZ, ARTURO; AVILA, MAGDALENA
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Original Article

Motivational factors related to female participation in collegiate sports

LAURA ABRIL PACHECO[1], FRANCISCO SOTO MAS[2], ARTURO OLIVÁREZ[1], MAGDALENA AVILA[3]

[1]*College of Education, University of Texas at El Paso, USA*
[2]*Department of Family & Community Medicine, Public Health Program, University of New Mexico, USA*
[3]*College of Education, Department of Health, Exercise and Sports Sciences, University of New Mexico, USA*

ABSTRACT

Pacheco LA, Soto F, Olivárez A, Avila M. Motivational factors related to female participation in collegiate sports. *J. Hum. Sport Exerc.* Vol. 7, No. 4, pp. 783-793, 2012. Despite the many health benefits, physical activity trends in females have been consistently reported to be lower than that of males. Other demographic variables may also be related to sport participation. The purpose of this study was to explore the factors that motivate college females to participate in sports. This was a cross sectional, causal-comparative survey study. Eight motivational factors were explored: fitness, skill/mastery, enjoyment, affiliation/recognition, team factors, ego/competition, parental support, and external rewards. Female college athletes (N=82) from two post-secondary institutions were surveyed using the 35-item Modified Sports Motivation Survey. Results indicated that all factors were important to participants with significant differences found according to eligibility in the motivational factor of fitness. This study represents one of the most comprehensive to date looking into the multifaceted and complex interactions of motivational factors that influence female collegiate sports participation in the United States, yet future research is needed to better understand the adherence to physical activity into adulthood. **Key words**: MOTIVATION, SPORT PARTICIPATION, COLLEGE FEMALES, ATHLETES.

Corresponding author. Family & Community Medicine, Public Health Program, MSC09 5060, 1 University of New Mexico, Albuquerque, NM 87131-0001, USA.
Phone: 505-272-3011
E-mail: fsotomas@salud.unm.edu
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INTRODUCTION

Studies have shown that regular physical activity has a positive effect on blood pressure, lipoprotein profile, insulin sensitivity, and weight management (Physical Activity Guidelines Advisory Committee, 2008). Adverse effects may include musculoskeletal injury due to over exertion, which can be prevented with proper instruction (US Department of Health and Human Services, 1996). The benefits of regular physical activity outweigh the risks, and if performed as recommended it can reduce the risks of cardiovascular disease, type 2 diabetes, and lung, breast, and colon cancer. It can also strengthen muscles and bones, improve mood, and assist in weight management (Sherry et al., 2010). The growing rates of complacent lifestyles and obesity point to the importance of sport participation and its role in influencing later lifestyle choices. As the literature has shown, the negative health outcomes associated with insufficient physical activity are of particular concerns for females (Hajian-Tilaki & Heidari, 2007; Talbot et al., 2000).

An important source of physical activity is sport participation, particularly for young females. Women who begin sports younger in life are more likely to continue being active as they get older (Crouter, 2007). However, in the United States young females are at greater risk for not getting enough physical activity compared to young males (Crouter, 2007), and gender inequities in sports continue to exist. Although there are more women involved in the realm of sports, females face societal challenges associated with the male hegemony of sport, including issues of identity, media coverage, fan support, and opportunities such as in the job market of coaching and broadcasting (Mean & Kassing, 2008; Kennedy, 2009; Krane et al., 2004). There are also issues of disparities in availability of forums to disseminate the expertise of women in the field compared to their male counterparts.

College female sport participation benefits and consequences

Women who participate in sports experience physical, mental, and behavioral benefits (Blinde et al., 1993; Staurowsky et al., 2009). It has been suggested that women who participate in sports at elite levels feel a sense of empowerment and increased body image and self-esteem (Robinson & Ferraro, 2004; Staurowsky et al., 2009) compared to their counter non-athletes who scored higher in drive for thinness and showed signs of anorexia and bulimia. Participation in sport may also have a positive influence towards minimizing negative health behaviors such as delinquency or drug abuse (Pate et al., 2000).

Studies have also reported on the negative consequences of college level sports. Gaston-Gayles (2004) found negatively correlated grade point averages between college students who participated in sports and were highly committed and their counterparts who were not committed to athletics. The study concluded that affective time management of classes, studies, practice, and competitions may be difficult for some students.

College Sport Motivation

Few studies have looked in depth into the motivation of female sport participation, particularly at the college level. Medic et al. (2007) compared male and female non-scholarship athletes from Canada and the United States using the Sports Motivation Scale. Findings suggest that differences in motivation were dependent on scholarship status with minimal difference between genders. Gaston-Gayles (2004) also found that an opportunity to play professionally was a motive to play sports at the college level, which was a more prominent factor among male athletes. Kilpatrick et al. (2005) used the Exercise Motivation Inventory-2 to determine the differences between males and females and motivational differences between exercise and sport. Affiliation, enjoyment, challenge, and competition were the top motivators for sport in a sample of college students (not college athletes).

Flood & Hellstedt (1991) examined the motivational differences between males and females and between various sports. Unique to this study was the addition of affiliation as a component to the motivational questionnaire. Authors suggested that the motivational component of socialization overpowered the component of competition for female athletes. Limitations of this study are that the sample was taken from a single Division-II university, with a predominantly Caucasian population.

Another study examined self-determination perspectives related to sport motivation in a diverse sample of college athletes and non-athletes (Vlachopoulos et al., 2000), and explored relationships between identified motivational profiles and quality of participant motivation outcomes in sport. Results pointed out to two main motivational profiles: 1) a traditional self-determined profile of having low extrinsic motivation with high intrinsic motivation; and 2) having both high extrinsic and intrinsic motivations. Study participants categorized as having traditional motivational profiles revealed lower levels of enjoyment and intention to continue sport participation in the long term than the aforementioned profile.

Parental and coach support

Research related to parental and coach influence on sport participation of females is limited to youth participants. Waldron & Krane (2005) looked at the influence parents and coaches had on female softball players, particularly goal orientation during the regular season. They found that task orientation remained consistent throughout the season, while ego orientation decreased. In sports, parents and coaches often times use speeches to motivate an athlete or team, but their direct effects are inconsistently explained in the literature. A study by Keegan et al. (2009) exploring coach, parental, and peer motivational influences in young children, found a strong influence from coaches and parents. Peer motivation was not as a strong as the other two social factors, yet peer motivation had strong influences on friendship, affiliation, group identities and belonging. Further research is needed on parental and coach influence on collegiate female sport participation.

Diversity in Intercollegiate Sport in the United States

In the United States, the ethnicity makeup of collegiate female athletes is 77.8 % White, 11.4% Black, 3.9% Hispanic, 3.7% other, 2.0% Asian, 0.3% American Indian, 0.2% Native Hawaiian, and 0.7% belonging to two or more races (National Collegiate Athletic Association, 2010). Additionally, ethnic differences of college athletes have been explored in relation to eating habits (Johnson et al., 2004; Engel et al., 2003), body image (Ricciardelli et al., 2007), and cardiac remodeling (Rawlins et al., 2010; Basavarajaia et al., 2008). Student-athlete ethnic differences in motivation have yet to be explored.

Despite the body of literature discussed above, there is a need for studies that look further on the factors that encourage collegiate females to participate in sports, particularly among certain population subgroups. In the United States, two demographic variables may be of particular interest: race/ethnicity and years of eligibility (or remaining years of eligibility as a collegiate athlete). Given the education and health disparities that exist in the Unites States, studies on the factors that motivate collegiate females to participate in sports must consider athletes' race/ethnicity. Additionally, the literature has not explored how the perceived motivation to participate in sports changes as students progress through their academic program. Therefore, the purpose of this study was to explore the factors that motivate females to participate in sports at the college level. It was hypothesized that there would be significant differences in participants' responses to the Modified Participation Motivation Survey subscales according to race/ethnicity and eligibility.

MATERIAL AND METHODS

Participants

A convenience sampling was used in selecting participants for this study. Only female student-athletes over the age of 18 were recruited. All met the criteria of being currently enrolled in college classes and actively participating in a collegiate level sport. The participants were from a four-year university and a two-year college in west Texas. Potential pools of participants were created from online rosters posted on the institution's athletic websites. Rosters were then verified by team coaches to ensure current status. The study was conducted in spring 2011.

Data collection procedures

Approval to conduct this research was granted by the Institutional Review Boards of the two participating institutions. Coaches from various sport teams were contacted to inform them of the study and to gain their support. An online survey was posted on SurveyMonkey, a web-based Internet survey engine. An email was sent directly to potential participants via SurveyMonkey with an invitation to participate in the study. In the email a link was provided to directly access the survey. Once the link was clicked, participant rights were presented along with a description of the study. If participants consented to participate they continued to fill out the survey. Once the survey was completed the window automatically closed and the data was saved on SurveyMonkey for export and analysis.

Instrument

Data were collected through an adapted form of the Modified Participation Motivation Survey (Pichardo, 2010). The survey was previously used by this research team, and showed acceptable validity and reliability in assessing motivation to participate in sports among female teenagers. It included two sections. Section I consisted of 12 items on demographic and sports related questions including race/ethnicity and remaining years of eligibility as a collegiate athlete (see Table 1 for demographic variables). Part II consisted of 35 items with a 5-point Likert scale ranking from 1: Not At All Important to 5: Very Important. Questions relate to literature-based factors that motivate females to participate in collegiate level sports, and were organized into the following eight categories: 1) fitness (defined as a physical state obtained through the means of exercise); 2) skill/mastery (the gained aptitude through knowledge and understanding); 3) enjoyment (one's sense of affinity); 4) affiliation/recognition (state of association or connection and acknowledgement); 5) team factors (elements of the sport, for example uniforms or coaches); 6) ego/competition (one's character to compete); 7) parental influence (reinforcement from parents); and 8) rewards (external compensation).

Data Analysis

The excel file generated by SurveyMonkey was imported to SPSS 17 (Chicago, Il, 2009). Demographic variables were analyzed using descriptive statistics. Raw data on race/ethnicity were grouped into three variables: Hispanic, Anglo-American, and Other. Similarly, remaining years of eligibility were grouped into "less than 1 year left," "two years left," and "more than 2 years left." Frequencies of the responses to the survey were compiled. A two-way multivariate analysis of variance was used to assess group differences and interactions among each dependent variable. Alpha was set at 0.05 level of significance.

Table 1. *Participant demographics.*

Characteristic	N	%
Age		
18-20	52	63.4
21-24	30	36.6
≥25	0	0.0
Race/Ethnicity		
White/Anglo	37	45.1
Hispanic/Latina	28	34.1
African American/Black	9	11.0
Other	8	9.8
Born in United States		
Yes	55	67.1
No	27	32.9
Language Spoken		
English	61	74.4
Spanish	9	11.0
Both	2	2.4
Other	10	12.2
Remaining Years of Eligibility		
4	6	7.3
3	25	30.5
2	21	25.6
1	27	32.9
0	3	3.7
Prior Sport Participation Experience		
≥7 yrs	78	95.1
6 yrs	0	0.0
5 yrs	3	3.7
4 yrs	1	1.2
Parent Sport Experience		
Yes	61	74.4
No	21	25.6
Elementary Sport Participation		
Yes	66	80.5
No	13	15.9
Not Answered	3	3.7
Middle School Sport Participation		
Yes	76	92.7
No	4	4.9
Not Answered	2	2.4
High School Sport Participation		
Yes	81	98.8
No	0	0.0
Not Answered	1	1.2

RESULTS

All participants included in this study attended post-secondary institutions in Texas and participated in intercollegiate sport (basketball, track and field, cross country, softball, tennis, golf, rifle, soccer, and volleyball). Of the 117 students asked to participate in this study, 85 (72.7%) completed the Modified Sports Participation Survey. Three surveys were excluded from analysis due to participants being under the age of 18. Demographic characteristics of eligible participants who completed the survey (n=82) are summarized in Table 1. Participants reflected a variety of origins, backgrounds and sports played due to intercollegiate athletics' recruiting process. Response frequencies to the survey's eight subscales are presented in Table 2. Additional descriptive statistics are presented in Table 3 and Table 4. The analysis conducted on the instrument (Modified Participation Motivation Survey) indicated acceptable overall reliability (0.904).

Table 2. *Response frequencies to subscales.*

	Fitness	Skill/ Mastery	Enjoyment	Affiliation/ Recognition	Team Factors	Ego/ Competition	Parental Support	Reward
Not at All Important	1	0	0	1	0	0	0	1
Not Important	5	0	0	4	3	1	3	3
Somewhat Important	15	2	3	38	19	5	11	11
Important	15	30	18	30	40	24	20	38
Very Important	46	50	59	9	18	51	47	29

A two-way multivariate analysis of variance (MANOVA) was performed to test the hypothesis that there would be differences in motivational factors according to race/ethnicity and eligibility status (independent variables). The dependent variables were the eight subscales of the MPMS survey. Analysis of variance and co-variance matrices were conducted to examine the homogeneity of co-variances assumptions. The Box's Test yielded a non-significant result, $p = 0.152$. The results of the MANOVA's inferential tests indicated no significant interaction between race/ethnicity and eligibility, $p = 0.075$, additionally the main effect of race/ethnicity yielded a non-significant result, $p = 0.073$. However, there was a significant main effect for eligibility, Roy's largest root = 0.451, $F(8, 61) = 3.44$, $p = 0.002$.

In an effort to better understand the results of the MANOVA, further examination of the follow-up univariate analyses regarding each of the eight subscales was conducted. Of all the dependent variables examined under eligibility grouping variables, the fitness scale yielded a significant result, $F(2,67) = 4.17$, $p \leq 0.05$, Eta-squared 0.11. Multiple comparisons were conducted; Tukey's HSD Test yielded a significant mean difference between the "less than one year left" and the other two eligibility groups.

***Table 3**. Mean scores according to race/ethnicity.*

Subscale	Group	Mean	Std. Error	95 % Confidence Interval	
				Lower Bound	Upper Bound
Fitness	Hispanic	11.62	0.58	10.46	12.78
	Anglo-American	11.85	0.49	10.88	12.83
	Other	14.26	0.79	12.68	15.84
Skill/Mastery	Hispanic	23.87	0.41	23.06	24.68
	Anglo-American	23.36	0.34	22.68	24.03
	Other	24.06	0.55	22.96	25.15
Enjoyment	Hispanic	17.78	0.51	16.76	18.79
	Anglo-American	17.64	0.43	16.79	18.49
	Other	18.88	0.69	17.50	20.26
Affiliation/Recognition	Hispanic	17.37	0.88	15.61	19.13
	Anglo-American	18.03	0.74	16.56	19.51
	Other	20.26	1.20	17.87	22.65
Team Factors	Hispanic	18.01	0.78	16.46	19.56
	Anglo-American	16.01	0.65	14.71	17.31
	Other	18.59	1.06	16.49	20.70
Ego/Competition	Hispanic	13.05	0.44	12.19	13.91
	Anglo-American	12.80	0.36	12.07	13.52
	Other	13.58	0.59	12.41	14.76
Parental Support	Hispanic	15.70	0.70	14.30	17.11
	Anglo-American	15.66	0.59	14.48	16.84
	Other	16.57	0.96	14.67	18.48
Reward	Hispanic	13.94	0.65	12.64	15.24
	Anglo-American	15.34	0.55	14.25	16.43
	Other	14.92	0.88	13.15	16.68

DISCUSSION

The results of this study indicate that females participate in sports at the collegiate level because of a combination of motivational factors, which are supported by Flood & Hellstedt (1991) findings. Contradictory to previous findings on parental influence and sport motivation (Keegan et al., 2009; Waldron & Krane, 2005), the participants in this study did not report parental support as a relevant motivator to why they participate in sports. These results suggest that female athletes between 18-24 years of age may not be highly motivated by their parents, possibly due to the separation experienced in college and the developmental stage in life that they are currently in. This is consistent with other motivational factors identified in the literature, such as responsibility and independence, which coincide with the detachment of parental/family structure. A previous study (Flood & Hellstedt, 1991) reported collegiate female athletes being most motivated by social and fitness factors, with competition being a secondary motive. The current study implies that present leading motivational influences may have slightly shifted in this population.

***Table 4**. Mean scores according to eligibility groups.*

Subscale	Group	Mean	Std. Error	95 % Confidence Interval	
				Lower Bound	Upper Bound
Fitness	Less than 1 yr left	10.47	0.55	9.38	11.56
	2 yrs left	13.42	0.73	11.96	14.87
	More than 2 yrs left	13.83	0.61	12.61	15.06
Skill/Mastery	Less than 1 yr left	23.54	0.38	22.78	24.29
	2 yrs left	23.52	0.51	22.51	24.53
	More than 2 yrs left	24.23	0.43	23.38	25.08
Enjoyment	Less than 1 yr left	17.60	0.48	16.65	18.56
	2 yrs left	18.13	0.64	16.86	19.40
	More than 2 yrs left	18.57	0.54	17.50	19.64
Affiliation/Recognition	Less than 1 yr left	18.73	0.83	17.08	20.38
	2 yrs left	18.30	1.10	16.10	20.50
	More than 2 yrs left	18.63	0.93	16.78	20.49
Team Factors	Less than 1 yr left	17.08	0.73	15.63	18.54
	2 yrs left	17.61	0.97	15.67	19.55
	More than 2 yrs left	17.92	0.82	16.29	19.56
Ego/Competition	Less than 1 yr left	13.05	0.41	12.24	13.86
	2 yrs left	13.10	0.54	12.01	14.18
	More than 2 yrs left	13.29	0.46	12.37	14.20
Parental Support	Less than 1 yr left	15.95	0.66	14.63	17.27
	2 yrs left	15.55	0.88	13.79	17.30
	More than 2 yrs left	16.44	0.74	14.96	17.92
Reward	Less than 1 yr left	15.55	0.61	14.33	16.77
	2 yrs left	14.18	0.81	12.56	15.80
	More than 2 yrs left	14.46	0.69	13.09	15.83

It was hypothesized that there would be differences in motivational factors according to race/ethnicity and eligibility status. As it turned out all of the participants scored the motivational subscales very similarly, with the exception of fitness. It seems that the importance of fitness is perceived differently as female athletes progress academically. In summary, the timeline of the remaining years of eligibility seems to have an impact on what motivates them to participate in sports. This is a relevant finding and may be instrumental in developing group-specific interventions.

This research represented one of the most comprehensive to date studies to look into the multifaceted and complex interactions of motivational factors that influence collegiate sports participation in the United States. Findings provide basis for future examinations into why females play sports at the college level and how that can transcend into greater participation. Despite the potential limitations presented earlier, the findings of this study provide information on the perceived motivational influences regarding sports participation among subgroups of collegiate athletes.

Based on the results of the study, there are several recommendations for future research. First, to explore motivational differences related to demographics and years of eligibility among female college athletes. Second, it would be interesting to expand the study to a greater scale. Not only expand the study by number of participants but to gather them from all different levels, for example Junior College. Third, the current study could be used in the future to examine differences in motivation according to gender with the addition of male participants.

Limitations

There were several limitations to this study that may restrict the generalization of its results. The sample size was unbalanced from the two educational institutions. Ideally, more participants should have been involved from the college level. While population and characteristics of participants were most likely representative of other colleges, caution is warranted in applying these findings to all athletes. Second, participants were all female and from two institutions with similar social cultural academic environments. Third, the instrument would benefit from further refinement. Its psychometric properties should be explored.

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