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Comparison of American and Chinese College Students' Reasons for Exercise, Exercise Enjoyment and Self-Efficacy

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Abstract

Background. People exercise for different reasons. Reasons for exercise may influence exercise behavior via influencing important psychological factors of habitual exercisers, exercise enjoyment, and self-efficacy. The aim of this study was to explore how different reasons for exercise are associated with exercise enjoyment and self-efficacy by males and females from differing cultural backgrounds. Method. Undergraduate students from a midwest university in the United States (males = 42, females = 171, age M = 21.68 years) and a national university in China (males = 64, and females = 149, age M = 21.47 years) participated in the study. Reasons for exercise, exercise enjoyment, and exercise self-efficacy were measured by questionnaire. Results. Individuals who exercised for non-appearance based reasons reported higher levels of exercise enjoyment compared to students who exercised for appearance based reasons, and this finding was irrespective of cultural background or gender. Women who exercised for mood alteration reasons reported higher self-efficacy compared to women who exercised for other reasons. In addition, gender and cultural differences were related to reasons for exercise and self-efficacy. Conclusion. Understanding exercise participants' reasons for exercise and how these relate to their exercise enjoyment and self-efficacy may help to foster greater rates of physical activity participation.

Keywords: enjoyment, self-efficacy, reasons for exercise, international, physical activity, young adults

Introduction

Habitual physical activity is an important contributor to health as evidenced by decreased incidence and progression of diseases such a coronary artery disease, Type 2 diabetes, osteoporosis, and colon cancer; and a decreased incidence of obesity among people who exercise frequently (American College of Sports Medicine [ACSM], 2014). In addition, exercise improves cognitive functioning, fosters positive mood states, reduces anxiety and depression, and enhances a host of other psychosocial factors (Berger, Pargman, & Weinberg, 2007; Chang, Labban, Gapin, & Etnier, 2012; Jackson & Eklund, 2012). Combinations of these benefits may vary across people, but generally they are accompanied by increased perceptions of enhanced subjective well-being and a higher overall quality of life (Berger et al., 2007; Berger & Tobar, 2007, 2011).

Despite the well-established benefits of habitual physical activity, only a relatively small proportion of the adult population throughout the world is physically active. For example, in the U.S., 54% of adults fail to meet the well-established guidelines of exercising at a moderate intensity level for 30 minutes or more on most days of the week (ACSM, 2014). Low exercise participation rates are also prevalent in China with 78.1% and 21.8% of adults in Chinese rural and urban

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areas, respectively, meeting established exercise guidelines (Munter et al., 2005). Additionally, Asian college students have been found to be less physically active than their American peers (Yan & Cardinal, 2013a).

Given its low prevalence, exploring factors that influence participants' and would-be participants' exercise motives for exercising remain important research topics (Hagger & Chatzisarantis, 2007; Patnode, Lytle, Erickson, Sirard, Barr-Anderson, & Story, 2010). Reasons for exercise represent the different motivations that people have for exercising (e.g., enjoyment, fitness, mood alteration, socialization, weight loss). Those can further be classified as appearance-related and nonappearance-related reasons. People who exercise for appearance-based reasons (e.g., body toning, physical attractiveness, weight control) are more likely to experience eating disturbances, low self-esteem, and social physique anxiety (Furnham, Badmin, & Sneade, 2002), whereas those who exercise for non-appearance-based reasons (e.g., fitness, mood alteration) are more likely to experience greater enjoyment and subjective well-being. However, whether these results hold up among people from different countries remains unclear. Furthermore, there is a paucity of cross-cultural and international research within sport and exercise psychology (Cardinal, Powell, & Lee, 2009; Ram, Starek, & Johnson, 2004), as well as research among women within exercise and sports medicine more broadly (Costello, Bieuzen, & Bleakley, 2014). Thus, how well these results generalize remains to be seen.

Different reasons for exercise may also influence behavioral outcomes, and this relationship may be mediated by some factors (Loprinzi, Cardinal, & Winters-Stone, 2013). Exercise enjoyment, self-efficacy, and mood alteration have been identified as the most proximal psychological factors related to exercise behavior (Bandura, 1986, 1997; Berger, 2009; Berger, et al., 2007; Carels, Coit, Young, & Berger, 2007; Wankel, 1993). Exercise enjoyment has been associated with positive mood change, increasing exercise motivation, and exercise adherence (Motl, Berger, & Leuschen, 2000). Wankel (1993) suggested that exercise enjoyment is influenced by many factors, including compatibility of exercise type with specific exercise goals. Furthermore, participants who exercise for reasons such as mood enhancement may experience more enjoyment than do those who exercise for other reasons such as caloric expenditure, duty, or obligation (Hagberg, Lindahl, Nyberg, & Hellénius, 2009).

Self-efficacy is a central motivational construct in Bandura's social-cognitive theory (Bandura, 1997). Self-efficacy, or situation-specific confidence in one's abilities, influences the specific activities that people choose to engage in, the subsequent effort expended on said activities, and the degree of persistence a person is willing to put forth even in the face of failure or when encountering aversive consequences (Bandura, 1997). As a result, self-efficacy is hypothesized to be an important mediator of behavior change (Bandura, 1997). For example, people who are high in exercise self-efficacy are more likely to be physically active (Cardinal & Kosma, 2004; McAuley, Jerome, Marquez, Elavsky, & Blissmer, 2003; Yan, Cardinal, & Acock, in press).

As noted previously, most studies examining exercise motivation and related psychological and behavioral outcomes have been done in Western countries. Little is known about the generalizability of these findings among non-Western populations (Xu, Farver, Yu, & Zhang, 2009). Because of distinctive cultural values and orientations, cultural differences may exist. For example, China is depicted as a family style collectivistic society, with Chinese people being more interdependent rather than independent (Yan & Cardinal, 2013b). On the other hand, people in the U.S. have been oriented toward rugged individualism and self-reliance (Nisbett, 2003; Turner, 1935). These differing cultural values and orientations may result in different expectancy-values. Further compounding this, particularly within the

physical activity domain, is the tendency among Asian youth to devote substantial amounts of time and effort toward academic study rather than physical activity (Cardinal, Lee, Kim, Lee, Li, & Si, 2009).

The purpose of this study was to identify reasons for exercising in American and Chinese college students, and to further explore this relationship by examining possible gender differences. We hypothesized that individuals who identified appearance-related reasons would have concurrently lower exercise enjoyment and self-efficacy levels compared to those who exercised for non-appearance-related reasons. We also explored whether these relationships were moderated by cultural background and gender.

Method

Participants

Undergraduate students from a midwest university in the United States (males: n = 42, females: n = 171, age M = 21.68 years) and a national university in China (males: n = 64, and females: n = 149, age M = 21.47 years) who were enrolled in randomly selected classes at each university were invited to participate in this study. Inclusion requirements were that the students be undergraduates and enrolled in a major area of study other than health, physical education, exercise and sport science, dance, sport management, or athletic training.

Measures

Reasons for Exercise Inventory (REI). The REI included 25 items that were separated into seven subscales (Silberstein, Striegel-Moore, Timko, & Rodin, 1988). Subscales included weight control, fitness, health, physical attractiveness, mood alteration, enjoyment, and body tone. Responses were rated on a seven-point scale ranging from "not at all important" to "extremely important." Cronbach's alpga coefficients for the REI ranged from 0.67 for enjoyment to 0.81 for weight control (Silberstein, et al., 1988). Item #9 on the original REI, "To be sexually desirable," was modified to, "To be physically attractive," which was considered more appropriate for Chinese university students.

Physical Activity Enjoyment Scale (PACES). The 18-item Physical Activity Enjoyment Scale (PACES) was used to examine a person's enjoyment of physical activity (Kendzierski & DeCarlo, 1991). The PACES is a valid measure of exercise enjoyment, especially for university students (Kendzierski & DeCarlo, 1991). The trait set of instructions were used to assess the participants' generalized enjoyment of "most types of exercise, most of the time." Examples of items include "It's no fun at all," and "It's very pleasant." Because participants rated their responses to test items on a seven-point Likert scale, potential scores could range from 18 to 126. Kendzierski and DeCarlo (1991) reported high internal consistency (Cronbach alpha = 0.93) and a test–retest reliability (i.e., 0.60 for bicycling and 0.93 for jogging) for the measure.

Barrier Self-Efficacy Questionnaire (SEQ). The five-item SEQ was employed to measure how confident participants were that they could be physically active in difficult situations such as when they were tired, in a bad mood, too busy, on vacation, or when the weather was rainy or snowy (Marcus & Forsyth, 2009; Marcus, Selby, Niaura, & Rossi, 1992). Responses ranged from "not at all confident," to "extremely confident," on a five-point Likert scale, with test scores ranging from 5 to 25. Test-retest reliability and internal consistency of the SEQ have been reported to be 0.90 and 0.76, respectively (Marcus et al.,1992).

Procedures

The study's protocol was approved by the institutional review board, and informed consent was obtained from all participants. Participants completed self-report questionnaires in their native language. To ensure cross-cultural equivalency, the questionnaires were

translated from English into Mandarin using a standardized translation process, which included translation, review, back translation, and final adjustments (Banville, Desrosiers, & Genet-Volet, 2000).

Analysis

To facilitate comparison of participants' scores on the seven REI subscales, all scores were converted to T scores. Then, each participant was categorized according to their primary reason for exercise as evidenced by the one reason on which he/she scored the highest. Separate 7 × 2 × 2 (Reasons for Exercise × Culture × Gender) ANOVAs were conducted on the dependent variables of exercise enjoyment and self-efficacy. An alpha level of 0.05 was used. Analyses were done with SPSS Version 17.0.

Results

Reasons for exercise and enjoyment (PACES)

Table 1 shows the correlation matrix of the subscales of Reasons for Exercise. Results of the 7 × 2 × 2 (Reasons for Exercise × Culture × Gender) ANOVA on exercise enjoyment indicated that the 3-way and the 2-way interactions among the three factors were not significant, ps ranged from .09 to .95. The main effect of Reasons for Exercise on the PACES scores was significant, $F(6, 399) = 3.51$, $p < .005$. Results of Tukey's post hoc tests (highlighted in Figure 1) indicted that students who exercised primarily for fitness, mood alteration, and enjoyment reasons had significantly higher scores on the PACES (suggesting greater enjoyment) than students who exercised for the appearance reasons of weight control (ps < .05), physical attractiveness (ps < .01), and body tone (ps < .05). Students exercising for health reasons did not differ in Exercise Enjoyment from students exercising for other reasons (ps > .05). There were no significant main effects for Culture or Gender on exercise enjoyment as measured by the PACES, $F(1, 399) = .391$, $p > .53$, and $F(1, 399) = 0.00$, $p > .05$, respectively.

Table 1. *Correlation Matrix of subscales of Reasons for Exercise*

	Weight Control	Fitness	Health	Mood	PA	Enjoyment
Fitness	0.31**					
Health	0.18**	0.54**				
Mood	0.21**	0.39**	0.50**			
PA	0.52**	0.48**	0.26**	0.31**		
Enjoyment	0.08	0.21**	0.31**	0.39**	0.15**	
Body Tone	0.36**	0.28**	0.19**	0.14**	0.38**	-0.03

Note. ** indicates correlation is significant at 0.01 level (2-tailed)

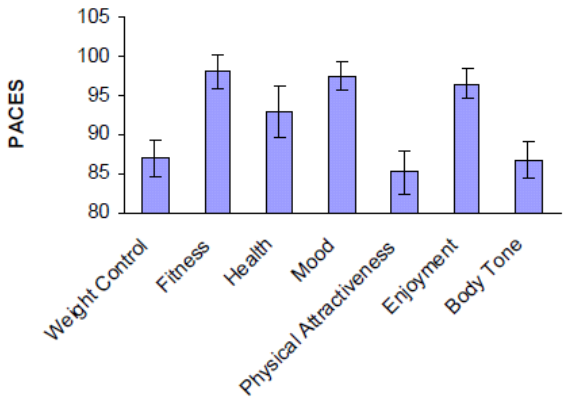

Fig 1. *Differences among reasons for exercise and exercise enjoyment as measured by the Physical Activity Enjoyment Scale (PACES).*

Reasons for exercise and self-efficacy

In the 7 × 2 × 2 (Reasons for Exercise × Culture × Gender) ANOVA on exercise self-efficacy, the three-way interaction was not significant, $F(5, 399) = 1.62$, $p > .15$. Several two-way interactions, however, were significant. These included the Reasons for Exercise × Gender interaction, $F(6, 399) = 2.64$, $p < .05$ and the Culture × Gender interaction, $F(1,399) = 12.45$, $p <$

.001. To investigate the interaction of Reasons for Exercise × Gender on participants' self-efficacy, simple-effect tests were performed separately for men and for women (See Figure 2). Males who reported different Reasons for Exercise did not differ significantly on self-efficacy, $F(6, 99) = 0.81$, $p > .56$. In contrast, women who had different reasons for exercise differed in self-efficacy, $F(6, 313) = 2.08$, $p = .05$ with the mood reason most highly related to confidence in overcoming common exercise obstacles. Men and women differed on self-efficacy when their primary reasons for exercise were for health ($p < .05$) and physical attractiveness ($p < .005$). As illustrated in Figure 2, men who exercised for these two reasons were higher in self-efficacy than women.

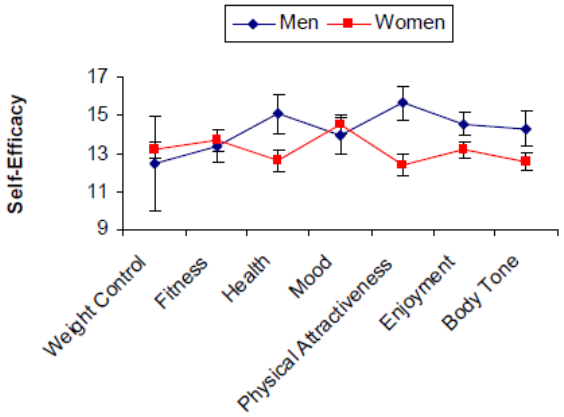

Fig 2. *Gender differences in self-efficacy for specific reasons for exercise.*

Results of the simple effect analyses for the Culture × Gender interaction (see Figure 3) showed that the U.S. students scored significantly higher on self-efficacy than did the Chinese students, $t(424) = 3.95$, $p < .001$. In addition, American men were significantly higher on self-efficacy than were the American women, $t(211) = 4.64$, $p < .001$. There was no evidence that, Chinese men and women differed on self-efficacy, $t(211) = 1.08$, $p = .28$.

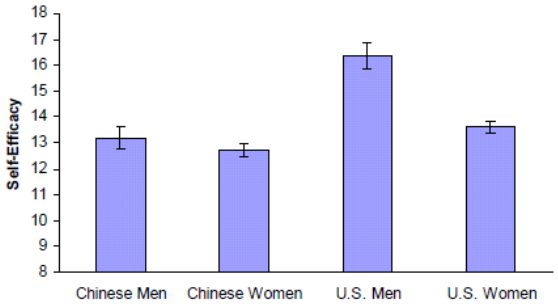

Fig 3. *Differences in exercise self-efficacy among Chinese and U.S. men and women.*

Discussion

Reasons for exercise and enjoyment

Enjoyment is a major reason for people to participate in diverse activities and is a key factor in positive psychology with its emphasis on enhanced levels of subjective well-being (Diener, Oishi, & Lucas, 2003; Hagberg et al., 2009). In support of our hypothesis, specific reasons for participating in exercise were associated with high levels of exercise enjoyment as measured by participants' scores on the PACES. Regardless of cultural background, those who exercised primarily for the three different reasons – mood alteration, enjoyment, and fitness – reported significantly higher enjoyment scores than did the students who exercised for the appearance-related reasons of weight control, physical attractiveness, and body tone.

These findings suggest that personal trainers, fitness instructors, and physical therapists, among others, should emphasize mood enhancement, exercise enjoyment, and fitness as reasons for exercise in order to foster exercise enjoyment and ultimately exercise adherence. Although exercising for health reasons was moderately related to exercise enjoyment, emphasizing mood alteration, personal enjoyment, and fitness as reasons for exercise may be most conducive to helping people become habitual exercisers. In contrast, exercising for weight

control, physical attractiveness, and body tone reflect extrinsic reasons for exercise and may result in exercise being a means to an end, rather than as an enjoyable process. Appearance-focused reasons for exercise are outcome-oriented and can result in exercise becoming something that one "should" or even "must" do to achieve a particular goal, rather than something that one "wants" to do and relishes.

Reasons for exercise and self-efficacy

Female college students in both cultures who differed in their reasons for exercise reported differences in self-efficacy, whereas male college students did not. Women who exercised primarily for the mood alteration tended to be higher in self-efficacy than those who exercised for other reasons. Thus, for women, mood alteration seems to be a Reason for Exercise that is more strongly related to self-efficacy than other reasons.

Male university students who reported the health and physical attractiveness as their primary reasons for exercise were higher in exercise self-efficacy than female students who reported the same reasons. This finding is consistent with the extant literature showing that there are gender differences in self-efficacy in exercise and sport (Gao & Harrison, 2005). Since male college students are more physically active than female college students (Keating, Guan, Piñero, & Bridges, 2005), some of the gender differences in participation may reflect differences in self-efficacy. Assisting female exercisers to increase their exercise self-efficacy is an important intervention strategy for enabling a larger portion of female college students to be physically active.

U.S. university students were higher in exercise self-efficacy than Chinese students. This may reflect a high valuation of the individualistic rather than collectivistic construct in U.S. culture (Hofstede, 2001). For Chinese university students, social, group, and familial factors may play a bigger role in terms of physical activity participation, rather than individual factor such as self-efficacy (Yan & Cardinal, 2013b). This is an area that may be further expanded upon in future research. To delve deeper into the cultural differences, future studies may employ a qualitative perspective and/or measure a broader array of potential reasons to exercise (e.g., economic, moral, social). Additionally, understanding the mechanism of how non-appearance related reasons to exercise influence exercise enjoyment and self-efficacy are needed.

While the present study addresses several ongoing voids in the field, it also is not without limitations. First, the data were collected from randomly sampled classes at both institutions, but those who agreed to participate were volunteers (i.e., a sample of convenience). Second, the data were collected by self-report questionnaire, making them vulnerable to item interpretation and social desirability.

Conclusions

Regardless of cultural background or the participants' gender, the college students who exercised for the non-appearance-based reasons (i.e., enjoyment, fitness, mood alteration) expressed higher levels of enjoyment for exercise than did those who exercised for appearance-based reasons. This is both an important replication and extension of the extant literature in the field (Furnham et al., 2002). In addition, exercising for mood alteration was related to higher self-efficacy in both American and Chinese women. Thus, female exercisers who have mood alteration as their primary reason for exercise may feel more confident that they can overcome exercise barriers such as having no time to exercise or exercising when they are tired. Finally, since self-efficacy, mood, and enjoyment benefits are three factors that encourage participation in physical activity (McAuley et al., 2003; Berger et al., 2007), it would appear that the reasons for exercise are important considerations for assisting individuals to establish lifelong exercise patterns.

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