Examining the Role of Ethnicity and Acculturation in Physical Activity and Resistance Training among Asian Americans

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Introduction

• Asian Americans may be less active than other ethnicities (Kao et al., 2016)
  • Asian Americans are the fastest growing population in the United States (U.S. Census, 2010)
• Values that are associated with the Asian American cultures include collectivism, emotional self-control, family recognition through achievement, filial piety and humility (Kim et al., 2001)
• The endorsement of these values may decrease the longer an Asian person is in America (Kim et al., 2001)
• Acculturation is the phenomena in which groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups (Redfield et al., 1936)
  • As individuals become more acculturated and adopt westernized values, they are at increased health risks such as diabetes (Fujimoto et al., 2000) and obesity (Popkin & Under, 1998)
• The Theory of Planned Behavior (TPB) has been used to predict physical activity (PA; Hagger, Chatzisarantis & Biddle, 2002)
  • Less research has examined its usefulness to predict resistance training (RT) behavior (Bryan and Rocheleau, 2002)
  • Ethnicity and culture have received little attention as background factors that influence the TPB components (Ajzen, 1991)
• Differences in TPB have been observed with different ethnicities (Nag et al., 2009; Hagger et al., 2007)

Methods

Participants

• Asian American adults (N=185; M_{age}=24.3 years, SD=6.8 years)
  • Gender: 95 Males (52%), 89 Females (8%), and 1 Non-binary
  • Ethnicity: Filipino/a (n=63; 34%), Vietnamese (n=33; 17%), Chinese (n=25; 14%), Japanese (n=14; 8%), Korean (n=7; 4%) & Mixed (n=30; 7%)

Procedure

• Participants completed an online survey
  • Two weeks later, a second online survey assessed RT and PA levels

Measures

• Acculturation – Suinn-Lew Asian Self-Identity Acculturation Scale (SL-21; Suinn, Ahuna, & Khoo, 1992)
  • e.g., What language can you speak?
• Physical Activity (PA) – Godin’s leisure time exercise questionnaire (Godin & Shephard, 1985)
• Resistance Training (RT) (3 items; Bryan and Rocheleau, 2002)
  • “In the past 3 months only, what is the average number of days per week that you engaged in weight training?”
• Theory of Planned Behavior (Ajzen, 1991)
  • Separate for leisure time PA for 150 minutes per week and RT at least 2 times per week
    • Attitude (7 items): is not important to very important
    • Subjective Norms (11 items): The majority of people important to me think I should ...
    • Perceived Behavioral Control (PBC; 5 items): I believe I am capable of...
    • Intention (5 items): I plan to...

Results

Analysis

• Variables screened for normality and outliers
  • Ethnicity dummy coded with other as the reference group
  • Path analysis performed in AMOS version 25

Predicting Physical Activity

- SL-21
- Chinese
- Japanese
- Vietnamese
- Filipino/a
- Mixed

- RMSEA = 0.032;
- χ²(14)=17.531, p=.274,
- NFI = .975, CFI = .996

Predicting Resistance Training

- SL-21
- Chinese
- Japanese
- Vietnamese
- Filipino/a
- Mixed

- RMSEA = 0.054;
- χ²(14)=21.902, p=.08,
- NFI = .960, CFI = .985

Discussion

• Attitudes, subjective norms, and perceived behavioral control (PBC) predicted intention for both PA and RT
• Replicates other studies using TPB (Hagger, Chatzisarantis & Biddle, 2002)
• Bryan and Rocheleau (2002) reported TPB predicted both aerobic PA and RT in a sample of college students
• Intention was the sole predictor of behavior with PBC predicting intention
  • The two week time frame may have been too short to capture the influence of PBC given that students have a relatively consistent schedule
• Hagger et al., (2007) suggested that a more collectivistic society (Hungary compared with other European groups) may factor into a weaker relationship between PBC and behavior that was observed
• Subjective norms was a significant predictor of intention in this study, which is not always the case (e.g., Blanchard et al., 2008; Plotnikoff et al., 2008; Beville et al., 2014)
• This could be due to Asian American value “collectivism” (Tsunoda, 1993)
• Stronger relationship between subjective norms and intentions seen in Japanese versus White samples (Nag et al., 2009)
• Background variables of acculturation and ethnicity played a small but significant role in TPB models
  • For RT, there was a significant relationship between acculturation and PBC such that those who were more acculturated showed higher PBC
  • Acculturation has related to physical activity participation (Allen et al., 2007)
• For PA, Filipino participants reported more positive attitudes than the reference group of ‘Other’ Asian Americans

Strengths:

• First study of its kind looking at the relationship between acculturation and TPB predictors
• A diverse sample of Asian Americans participated
• Resistance training is a behavior not commonly examined as a distinct from physical activity
• Prospective design allowed for the prediction of future PA and RT

Limitations:

• Selection bias limits generalization
  • Large proportion of students (n=103; 55.6%) and health-related majors (21.6% were Kinesiology & Health Science majors)
• Acculturated sample may have limited potential of acculturation to predict variables
  • 69% 2nd Generation = “I was born in U.S., either parent was born in Asia or country other than U.S.”
  • Primary language spoken at home was English (evidence of high acculturation)
• Self-reported physical activity and RT were assessed and may have been over-reported
• Not all participants completed the post survey (n=54, 29%)
  • Completers and non-completers were similar except, non-completers were less acculturated and reported lower PA norms