

# NASPSPA 2026

The NASPSPA 2026 Annual Conference is in **Montréal, Québec** from **June 18-20, 2026**

## **Determinants of Motivational Regulations for Physical Activity in Middle Eastern Female College Students: A Follow-Up Study**

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**Presentation type:** Oral presentation

### **Abstract**

Understanding how motivation for physical activity develops and is maintained is a public health priority, particularly among young adults. Guided by Self-Determination Theory (SDT), this longitudinal study examined the stability and determinants of motivational regulations for physical activity over eight weeks among female college students in the Middle East.

Participants were 254 Emirati women aged 18–24 ( $M = 20.41 \pm 1.97$  years) who completed measures of motivational regulation, MVPA, body composition, and handgrip strength at baseline, with motivation reassessed after eight weeks. Motivation was assessed with the Sport Motivation Scale II. MVPA was measured with accelerometers. Body composition was estimated using bioelectrical impedance, and muscular strength was assessed using handgrip dynamometry. Path analysis examined predictors of six motivational regulations (intrinsic, integrated, identified, introjected, external, and amotivation) and their stability over time.

Results showed stability in all motivational regulations over eight weeks, except for amotivation, with intrinsic motivation being most stable. Baseline handgrip strength predicted more autonomous motivation types (intrinsic,  $\beta = 0.18$ ,  $p = 0.017$ ; integrated,  $\beta = 0.16$ ,  $p = 0.035$ ; identified,  $\beta = 0.18$ ,  $p = 0.017$ ). MVPA predicted identified regulation ( $\beta = 0.18$ ,  $p = 0.006$ ) and reduced amotivation ( $\beta = -0.15$ ,  $p = 0.016$ ). Greater fat mass was linked to higher amotivation ( $\beta = 0.27$ ,  $p = 0.006$ ), while more muscle mass was related to lower amotivation ( $\beta = -0.21$ ,  $p = 0.035$ ). Baseline motivation predicted follow-up outcomes, showing moderate stability. Handgrip strength remained a positive predictor of integrated regulation over time ( $\beta = 0.28$ ,  $p = 0.036$ ). MVPA and body composition had limited future effects beyond baseline motivation.

These findings indicate stable motivational regulation among young Emirati women and highlight physical fitness, particularly muscular strength, as supporting self-determined motivation. Interventions to increase physical activity among Middle Eastern female college students could include strength-training exercises and autonomous motivation strategies. This study offers new longitudinal evidence from an underrepresented group and insights for culturally relevant physical activity promotion.

**Keywords:** Self-Determination Theory; physical activity motivation; Middle Eastern women; longitudinal study; muscular strength