

*Motivation for Physical Training in Army ROTC Cadets*

Christina Frederick, Embry-Riddle Aeronautical University

Stephen Rice, Embry-Riddle Aeronautical University

Grace Richards, University of Chicago

Keith Ruskin, University of Chicago

Kyle Gatrost, Embry-Riddle Aeronautical University

Christina Frederick, Department of Human Factors, Embry-Riddle Aeronautical  
University

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**Abstract**

The present study used Self-Determination Theory to study motivation for physical training (PT) in ARMY ROTC cadets (n=139). Results found that length of participation in ROTC lowered cadets' intrinsic motivation, which then resulted in lower levels of enjoyment for PT. Application of results for future training is discussed.

**Keywords:** intrinsic motivation, ARMY ROTC, self-determination theory

**Declarations**

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**Ethics approval:** This study was approved by the IRB at Embry-Riddle Aeronautical University, #19-007

**Consent to participate:** A consent form was completed by all participants, as required and approved by the IRB project #19-007

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**Availability of data and material:** Data and materials are available upon request from the first author.

## Introduction

The Reserve Officer Training Corps (ROTC) is a college-based program that provides undergraduate education, physical and leadership training to cadets across all branches of the military. The Army ROTC program provides various levels of financial support for college to its participants (goarmy.com, 2021b) in return for service after graduation. The ARMY ROTC program is the largest of the programs (goarmy.com, 2021a) and provides over 40% of its commissioned officers. More than 20,000 men and women are currently enrolled in Army ROTC programs at 273 institutions, and 20% of ROTC cadets are women.

While in ROTC, students participate in regular college coursework, Army ROTC-required coursework and leadership training, and engage in required physical training (PT). Cadets are required to pass the Army ROTC fitness test in their freshman year of college, and to maintain fitness and weight throughout their ROTC career (Army Regulation 600-9, 2013). The PT component of ROTC is important in building a healthy and fit corps, and requires as much dedication and commitment as coursework. PT includes 3 times a week mandatory group sessions focusing on cardio and strength training. These sessions last 1.5-2 hours, and occur in the early morning hours in order to lessen conflicts with classes.

Although the PT program is a key component of ROTC participation, it has been infrequently studied, and little is known about cadet motivation for PT. Fischer (2015) examined a small group of ARMY cadets, assessing their motivation across a five-month period. She concluded that cadet motivation included both task focused and ego-involved functioning as a means to improve performance. In earlier work, Fischer (2014) focused on Army ROTC PT training as an effective means to enhance the dimensions of resiliency and selfless service, both of which are desirable in Army service.

The present study uses Self-Determination Theory (SDT) to examine motivation in Army ROTC cadets. SDT (Ryan & Deci, 2000) defines extrinsic vs. intrinsic motivation and discussed antecedents and results of individuals acting in these two motivational states. Specifically, higher levels of intrinsic motivation lead to greater engagement, enjoyment and vitality, while extrinsic motivational states tend to discourage long term participation and enjoyment (Ryan & Deci, 2017). The present study tests a model that examines how the length of ROTC participation influences intrinsic motivation and perceived enjoyment of ROTC PT training.

It is predicted that due to the highly structured and required aspects of PT training that over time cadets may experience a decrease in intrinsic motivation, which then results in a lower level of enjoyment.

## Method

Participants in the study were 161 Army ROTC cadets participating in a program at a University in the southeastern United States. Thirty cadets were female and 131 male with a mean age of 19.68 years. The cadets completed a survey packet at the end of a PT session, containing information about age, gender and years of ROTC participation. Intrinsic motivation was measured using the Self-Regulation Scale for Physical Activity, a valid and reliable assessment of motivational style (Ryan & Deci, 2000). Enjoyment was measured using the ENJOY Scale, a multi-dimensional measure of enjoyment resulting from engagement in an activity (Davidson, 2018).

## Results

A bivariate correlation matrix was conducted to determine possible variables for mediation. This analysis resulted in using Length of Service as the independent variable and the Enjoyment scale as the dependent variable, with Intrinsic Motivation as the mediating variable. Length of Service correlated negatively with Enjoyment ( $r = -.19$ ) and Intrinsic Motivation ( $r = -.32$ ), while Intrinsic Motivation correlated positively with Enjoyment ( $r = .50$ ).

*Mediation Analysis.* The standardized regression coefficient between Length and Enjoyment was statistically significant, as was the relationship between Intrinsic and Enjoyment. The significance of this indirect effect was tested using bootstrapping procedures (Hayes, 2013) with 10,000 bootstrapped samples. The bootstrapped 95% confidence interval ranged from  $-.078$  to  $-.018$ . Thus, the indirect effect was statistically significant and there was mediation for Intrinsic Motivation. There was no mediation for Identified.

## Discussion

PT is a critical component of the ROTC training experience. Identifying potential motivators for PT may help to improve the experience for participants, while making the program more effective. The purpose of the current study was to determine variables that mediate the relationship between length of service in ROTC and their enjoyment of PT.

We found that Length of Service correlated negatively with Enjoyment in PT. This relationship was mediated by Intrinsic Motivation, which correlated negatively with Length of Service, but positively with Enjoyment. These data support the hypothesis that the longer ROTC cadets are in the service, the less they enjoy PT. The mediational causal model shows that this effect is caused by lowered Intrinsic Motivation over time. Thus, the longer they are in the program, the lower their intrinsic motivation, which in turns causes less enjoyment in PT.

These findings show that Self-Determination Theory (SDT) (Ryan & Deci, 2000) can be successfully used to examine motivation in Army ROTC cadets. The military should be aware that their ROTC cadets are losing intrinsic motivation over time, which is decreasing their enjoyment of PT. Intrinsic motivation and enjoyment have both been shown to relate to long term adherence in activities, such as exercise. (Ryan & Deci, 2000, Ryan et al., 1998). So, while enjoyment may not be a primary goal of PT, decreases in it would not bode well for fitness activity adherence in the long term. Further research should consider ways to address this problem.

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