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# Effect of Training Modality on Intention to Exercise Among Law Enforcement Cadets Post Academy

Nicholas Hunt

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# EFFECT OF TRAINING MODALITY ON INTENTION TO EXERCISE AMONG LAW ENFORCEMENT CADETS POST ACADEMY

by

NICHOLAS HUNT

(Under the Direction of Bridget Melton)

## ABSTRACT

Police academies are typically the first formalized job-task-oriented exercise training for law enforcement officers (LEOs). Research has demonstrated that cadets are at higher risk of injury during the academy. Physical training (PT) is a critical component of LEO academy efforts to build occupational skills to meet job demands. Although research is beginning to investigate the efficacy of different training modalities, more research is needed to understand the impact of academy training load and modality on occupational readiness and interest in maintaining exercise behaviors post-academy. **PURPOSE:** to investigate the relationships between different physical training modalities and intention to continue physical training among cadets after a 12-week police academy. **METHODS:** A cross-sectional design was utilized with a convenience sample of 236 graduating LEO cadets (27.84 y; 203 male, 30 female). Participants completed a 5-Point Likert Scale for perceived intensity for each exercise modality (formation runs, circuit training, and defensive tactics). Cadets then rated their intention to continue each modality after academy completion (ranging from 1=Extremely Unlikely to 5=Extremely Likely). Spearman-Rho correlations were used to determine the relationship between each training modality and cadets' intention to continue PT after the academy. **RESULTS:** With Circuit Training, a significant negative weak correlation was found between intensity and intention ( $r_s(229) = -.140, p = .034$ ). No significant correlations were found between intention formation runs or defensive training. **CONCLUSION:** Though significant, the weak negative correlation does not give a strong inference, and more research into perceived intensity and behavioral intention is warranted to gain a better understanding of this interaction.

**INDEX WORDS:** Perceived exertion, Intention, Law enforcement, Physical training, Likert scale, Physical training, Fitness

EFFECT OF TRAINING MODALITY ON INTENTION TO EXERCISE AMONG LAW  
ENFORCEMENT CADETS POST-ACADEMY

by

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A Thesis Submitted to the Graduate Faculty of Georgia Southern University

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## CHAPTER 1

### BACKGROUND

#### Purpose of this Study

The purpose of this study is to investigate the relationships between different physical training modalities and the intention to continue physical training among cadets after a 12-week police academy.

#### *How this study is original*

This study examines the relationship between training modality and the intention to continue physical training. Looking at the potential link between these two variables may lead to further research on how to improve fitness lifestyle changes among a population who is prone to cardiovascular and metabolic disease.

## CHAPTER 2

### INTRODUCTION

#### **Health Issues in Law Enforcement**

Law enforcement, like other public safety occupations, is physically demanding and full of stressors and, as a result, often comes with many negative health effects (Demir et al., 2016). Law enforcement officers (LEOs) have been consistently found to be overweight and obese compared to non-LEO peers, with one source highlighting that 40.7% of LEOs are obese, the highest rate among all occupations (Luckhaupt et al., 2014). Additionally, LEOs struggle with higher risk factors of cardiovascular disease, including increased blood pressure, dyslipidemia, higher cortisol levels (Violanti et al., 2006), increased arterial stiffness (Keeler et al., 2021), and poor sleep habits (Desta et al., 2013). Furthermore, the risk of musculoskeletal injuries is more pronounced in LEOs compared to other occupations, at a rate of 635 per 10,000 compared to the national average of 213 per 10,000 workers (Tiesman et al., 2018). To most effectively mitigate chronic diseases and musculoskeletal injuries, physical activity and exercise should be maintained throughout the career of LEOs.

#### **Career Demands**

Job demands of LEOs often include long bouts of sedentarism with short bouts of various, potentially strenuous, physical exertion. Typical occupational duties include protecting citizens and their property, apprehending suspects, and enforcing the law. Even with typical duty, officers' heart rates may elevate to near or maximal levels, contributing to added stress on the cardiovascular system (Decker et al., 2016). Although life-threatening situations may not occur daily, officers still need to be ready to use maximal strength, power, and speed while simultaneously making quick cognitive decisions requiring high levels of fitness and

occupational performance ability (Alvar et al., 2017). Nevertheless, over an LEO's career, the time spent relatively sedentary inside a patrol vehicle accumulates, with LEOs often experiencing low back pain and poor mobility (Marins et al., 2023).

One concern many agencies experience is a decrease in the fitness levels of their officers after beginning their law enforcement careers. In one study that explored the differences between 84 law enforcement cadets compared to 80 incumbent officers, male cadets exhibited lower fat mass, higher muscle endurance as well as higher aerobic and anaerobic fitness levels compared to incumbent officers (Orr et al., 2018). In the same study, female cadets in the study showed higher upper-body muscle strength and endurance compared to incumbent female officers (Orr et al., 2018). These findings were only slightly related to the age differences between the two groups and alluded to the fact that a career in law enforcement can contribute to negative health and fitness outcomes if not properly addressed.

This decline in health and wellness is a negative consequence of the daily demands of a job in law enforcement and is worthy of investigation in efforts to improve health outcomes for law enforcement officers across their careers. This study looks to explore the factors that contribute to physical training adherence and use the findings to influence academy training in the future.

### **At the Academy**

Police academies typically provide the first formalized task-oriented exercise training for LEOs ranging from 12 to 36 weeks in duration, depending on state, local, and/or agency training requirements. During this time, cadets learn job skills such as criminal procedure, driving techniques, and defensive tactics (Georgia POST, 2006). Along with developing these skills, cadets are often required to participate in physical fitness programming.

Physical training varies widely among states and agencies, but most recognize the importance of physical training (PT) and provide some form of training throughout the academy. During this PT, cadets participate in aerobic and anaerobic conditioning as well as weight lifting, plyometrics, and defensive tactics. Acknowledging the variability between states, regions, and agencies, academy PT has the potential to accomplish notable gains in cadets' physical strength and endurance. One study looked at recruit fitness changes in a 16-week academy and noted significant increases in agility, upper-body and lower-body peak power, and muscular endurance in the first 8 weeks, and a half-mile shuttle run at the end of the program (Crawley et al., 2016).

While fitness among cadets generally improves during the academy, there is evidence that cadets who are more fit entering the academy typically demonstrate higher graduation rates than those not as physically fit (Lockie et al., 2022). Research has also demonstrated that cadets are at higher risk of injury during this time. One study using a sample of 4,340 recruits, found an injury rate of 36.8%, with joint and ligament trauma most commonly reported (49.3%) (Maupin et al., 2022). Another study looked at the injury rates among FBI academy recruits and found that 35% percent of men and 42% of women experienced at least one injury during the academy (Knapik et al., 2011).

Academies establish foundational education and skill development for beginning LEOs with the understanding that this foundation will serve them throughout their careers (GPSTC, 2023). Thus, this critical period not only addresses entry-level physical fitness but has the potential to impact long-term health concerns for LEOs as well. A positive foundation of physical fitness and wellness training during the academy may positively influence LEO long-term exercise adherence.

## **Exercise Intention as Planned Behavior**

One way to better explain why individuals exercise and maintain fitness programs over a career or lifetime is by exercise intention. Several studies have demonstrated that the intention-exercise relationship is asymmetric, with very few people exercising without positive intentions (Rhodes and Plotnikoff, 2006; Rhodes et al., 2008). Interventions are thought to be more successful when they are based on known and modifiable theory-based correlates of exercise behavior. One such theoretical model that has been used extensively in the study of exercise correlates is the theory of planned behavior (TPB) (Ajzen, 1991). According to TPB, one of the strongest variables of exercise is the intention to exercise (Kanan et al., 2021). TPB describes contributing factors such as attitudes, behaviors, perceived control, and subjective norms for motivation (intention) for change (Ajzen, 1991). Research has provided evidence for a two-step approach in the intention-exercise relationship, consisting of (1) action planning (forming an intention to exercise, the emphasis on the importance of maintaining physical abilities by command officers in the academies), and (2) action control (translating these formulated, demonstrating and executing physical training during the academy) (Rhodes et al., 2003). Although research suggests using theory-based approaches, no known research has explored these tenants in the law enforcement field.

Physical training is an essential component of LEO academy efforts to build occupational skills to meet the high-stress, asymmetrical job demands of law enforcement. Research has established the positive impact police academies can have on fitness variables during academy training (Martinez and Abel, 2021; Crawley et al., 2016). Nevertheless, decreases in fitness ability have been observed throughout the LEO career span (Violanti et al., 2006). Little research has explored cadets' intentionality regarding physical training continuation. Exploring if a

relationship exists between physical training received during the police academy and the impact on future officers' intention to maintain physical training may prove fundamental for efforts aimed at maintaining strength and wellness throughout the LEO career.

Therefore, the purpose of this study was to investigate the relationship between cadets' perceived intensity of physical training modalities and their intention to continue physical training after the academy.

### **Research Questions**

R1: Is there a relationship between the perceived intensity of physical training modality during LE academy and the intention to continue the same modality of training post-academy graduation?

H0 – There are no significant relationships between perceived intensity and intention to continue an exercise modality.

H1 – There is a significant relationship between perceived intensity and intention to continue an exercise modality

R2: Is there a significant difference in intention to continue post-academy between the specific training modalities?

H0- There is no statistically significant difference between modalities regarding intention.

H1- There will be a statistically significant difference in training modalities.

3a. Is there a significant difference in intention to continue modality-specific exercise training post-academy between genders?

H0- There is no statistically significant difference between genders concerning post-academy exercise intention.

H1- There will be a statistically significant difference between genders and exercise intention.

3b. Is there a significant relationship between age and modality-specific exercise intention?

H0- There is no statistically significant relationship between age and modality-specific exercise intention.

H1: There will be a statistically significant relationship between age and modality-specific exercise intention.



## CHAPTER 3

### METHODS

#### **Design and Participants**

A cross-sectional design was utilized with a convenience sample of 236 LEO cadets in the southeastern region of the United States (27.84 y; 203 male, 30 female). Participants volunteered from 10 state-funded academy sites across one state to complete a survey comprising two primary questions investigating intensity and intention subdivided by modality, as well as three demographic questions of sex, age, and training center. Data were obtained from a questionnaire embedded within the program effectiveness and satisfaction survey. Deidentified data was then requested for review from the sponsoring agency. After receiving agency permission, the study secured approval from the researcher's Institutional Review Board (H19098).

#### **PT Training Program Description**

Physical training sessions were infused into the daily operations of participating academies, with cadets completing structured physical training programming that consisted of one Formation Run day (Monday), two Circuit Training days (Tuesday and Thursday), one Agility Training day (Wednesday), and one Defensive Tactics training day (Friday). The 12-week program was designed by a certified strength and conditioning specialist in collaboration with academies' training officers. Each of the training officers received 16 hours of education on how to execute pre and post-fitness assessments and how to lead physical training sessions. Additionally, a commercially available smartphone application (APP) was used as a communication tool and program delivery support for the instructors. The APP was used by instructors to provide consistency across the program, allowing instructors to complete the

workouts as they progressed through each session and week. Embedded videos were made available for instructors as a reference on exercise form and cueing.

After the 12-week academy, a program effectiveness and satisfaction survey was posted on the cadets' learning management system, and time was given during a class session to complete the survey during the last week of the academy. If the cadets consented to participate in the study, they followed a provided link to complete the survey. No incentive was given for participation.

## **Measures**

### **Perceived Intensity**

Rating of perceived exertion (RPE) is accepted in the field of exercise sciences to indicate exercise intensity (Borg, 1970; Arney et al., 2019; Aniceto et al., 2015). RPE was gathered in this study by asking cadets to rate the average intensity of each training modality, including Formation Run, Circuit Training, Agility Training, and Defensive Tactics. Cadets selected their responses using a 5-Point Likert Scale rating perceived intensity (i.e., 1=Not challenging at all, 2=Slightly Challenging, 3=Moderately Challenging, 4= Very Challenging, and 5=Extremely Challenging). The 5 Point scale measuring RPE has been used as a measure of intensity in previous research (Colado et al., 2014)

### **Behavioral Intention**

Behavioral intention, or one's motivation for performing a behavior (exercise), is considered a causal or proximal factor (Fishman et al., 2020). Cadets were asked to rate their intention to continue physical training efforts after academy graduation using a 5-Point Likert Scale similar in structure to the exercise intensity questions with values ranging from

1=Extremely Unlikely, to 5=Extremely Likely. This question was repeated for each training modality, and the results were subsequently compared.

### **Demographics**

After the questionnaire, personal demographic information (i.e, age and gender) and regional information (training center cadet attended) were collected for future analyses to explore perceptions of the training program among differing training centers.

### **Analysis**

Descriptive statistics were calculated for demographic and program satisfaction. Age is expressed as a mean and standard deviation, with sex being expressed as a percentage. Frequencies were obtained for each survey response to illustrate outcomes. Due to the nature of the survey, Cronbach's Alpha analyses were conducted for the internal reliability of the survey portions used for this study. Cronbach's Alpha was used to test the internal reliability of the questionnaire, with an acceptable level of  $\alpha = .7$ . Both variables, intensity and intention, demonstrated alpha levels above the recommended threshold,  $\alpha = .777$ ,  $\alpha = .760$  respectively.

For inferential analyses, Spearman Rho correlations were used with alpha levels set at  $> .05$ . Secondary analyses were conducted using the Kruskal-Wallis test to determine the differences between modalities regarding intention. For the final research question, independent samples T-tests were conducted to compare differences in gender for each modality and Pearson's correlations were conducted to analyze the correlations between age and modality intention. All analyses were performed with SPSS version 28 (SPSS Inc, Chicago, IL).

## CHAPTER 4

## RESULTS

Two hundred thirty-five law enforcement cadets were used in the statistical analysis, however, due to a variance in complete responses, some categories have fewer individuals represented. The mean age was  $27.84 \pm 7.41$ , and 203 (86.4%) of the respondents were males (2 respondents selected "prefer not to say" regarding their gender). Demographic statistics are displayed in Table 1. Response Frequencies for independent variables (Intensity) are listed in Tables 2-4. Response Frequencies for dependent variables (Intention) are listed in Tables 5-7. Spearman rho results can be found in Table 8. Results were considered statistically significant at the  $p < .05$  level.

**Table 1. Descriptive Statistics of Law Enforcement Cadets**

Demographic Variables	Mean $\pm$ SD	Min	Max	n(%)
Age (yr)	27.84 $\pm$ 7.411	18	59	
Gender				
Male				203 (86.4)
Female				30 (12.8)
Prefer Not to Say				2 (.8)
Total				235

**Table 2. Running Intensity Response Frequencies**

Intensity	Frequency	Valid Percent
Not Challenging At All	86	36.9
Slightly Challenging	52	22.3
Moderately Challenging	63	27
Very Challenging	28	12
Extremely Challenging	4	1.7
Total	233	100

**Table 3. Circuit Training Intensity Response Frequencies**

<b>Intensity</b>	<b>Frequency</b>	<b>Valid Percent</b>
Not Challenging At All	61	26.1
Slightly Challenging	62	26.5
Moderately Challenging	87	37.2
Very Challenging	22	9.4
Extremely Challenging	2	.9
Total	234	100

**Table 4. Defensive Tactics Intensity Response Frequencies**

<b>Intensity</b>	<b>Frequency</b>	<b>Valid Percent</b>
Not Challenging At All	52	22
Slightly Challenging	55	23.3
Moderately Challenging	91	38.9
Very Challenging	34	14.5
Extremely Challenging	2	.8
Total	234	100

**Table 5. Running Intention Response Frequencies**

<b>Intention</b>	<b>Frequency</b>	<b>Valid Percent</b>
Extremely Unlikely	7	3.0
Somewhat Unlikely	10	4.3
Neither Likely or Unlikely	73	10.4
Somewhat Likely	73	31.6
Extremely Likely	117	50.6
Total	231	100

**Table 6. Circuit Training Intention Response Frequencies**

<b>Intention</b>	<b>Frequency</b>	<b>Valid Percent</b>
Extremely Unlikely	25	10.9
Somewhat Unlikely	16	7
Neither Likely or Unlikely	44	19.1
Somewhat Likely	68	29.6
Extremely Likely	77	33.5
Total	234	100

**Table 7. Defensive Tactics Intention Response Frequencies**

<b>Intention</b>	<b>Frequency</b>	<b>Valid Percent</b>
Extremely Unlikely	9	3.9
Somewhat Unlikely	10	4.3
Neither Likely or Unlikely	30	13
Somewhat Likely	75	32.6
Extremely Likely	106	46.1
Total	234	100

### **Research Question 1**

Inferential analyses were conducted using Spearman's correlation to determine the relationship between perceived modality intensity and the cadet's intention to continue that modality. There were no statistically significant correlations between Formation Runs and Defensive Tactics intensities and their relative intentions. There was a statistically significant, weak negative correlation demonstrated between Circuit intensity and intention,  $r_s(229) = -.140$ ,  $p = .034$  as presented in Table 8.

**Table 8. Spearman Rho Correlation Results**

Predictor (Intensity)	Outcome (Intention)	Spearman Rho	P-Value
Formation Runs	Running Intention	.079	.232
Circuit Training	Circuit Intention	-.14	.034*
Defensive Tactics	Defensive Intention	-.056	.397

Note: \* indicates significant correlation  $p < .05$

### Research Question 2

A Kruskal-Wallis test was conducted to determine if there were statistically significant differences between modalities regarding intention post-academy. This analysis showed at least one statistically significant difference  $H(2)=25.8, p < .001$ , and pairwise comparisons were conducted to determine where those differences occurred. Post hoc pairwise comparisons showed that there was a significant difference between Circuit Training and Formation Run intention ( $p < .001$ ) and Circuit Training and Defensive Tactics ( $p < .001$ ). However, differences in Formation Run intention and Defensive Tactics intention were not found to be statistically significant ( $p = .886$ ).

### Research Question 3a-Gender

Independent samples t-tests found no statistically significant differences in modality intention based on gender groups. For running intention, there was no significant difference among genders,  $t(227) = -1.518, p = .13$ , despite women ( $M = 4.48, SD = .871$ ) rating running intention slightly higher than men ( $M = 4.18, SD = 1.021$ ). For circuit training intention, there was no statistically significant difference among genders  $t(226) = -1.256, p = .21$ . Likewise,

there was no statistically significant difference among genders with defensive tactics intention  $t(226) = -.459, p = .647$ .

### **Research Question 3b-Age**

Pearson's correlations were computed to assess the relationship between age and each modality intention. The only statistically significant correlation was a weak positive correlation between age and circuit training intention  $r(217) = .169, p = .012$ . Statistically nonsignificant correlations were found for both age and running, as well as age and defensive tactics training. Specifically, the nonsignificant weak positive correlation between age and running intention was  $r(218) = .077, p = .258$ , while the nonsignificant weak negative correlation between age and defensive tactics training intention was  $r(217) = -.012, p = .863$ .



## CHAPTER 5

### DISCUSSION

This study analyzed the relationships between exercise intensities of specific modalities and modality intentions among cadets at eight regional training centers across Georgia. This survey was conducted after a significant overhaul to the structure and pedagogy of the physical training portions of a state-funded law enforcement training center. Previous academy classes focused their physical training programming around formation running and limited calisthenics (squats, pushups, and flutter kicks). Included in the updating of the physical training system, equipment for more diversified training as well as training instructor training from certified professionals, lead to the inclusion of circuit training and agility training in their programming. Due to a limitation in the survey, agility training was not able to be accounted for in this study. Despite this omission, the data collected in this study may help in guiding best practices in training to increase the likelihood of exercise adherence among law enforcement officers after the academy.

#### *Intensity*

Rating of Perceived Exertion (RPE) as a subjective measure of intensity is a recurring metric through strength training literature (Aniceto et al., 2015; Lins-Filho et al., 2012). While most studies use RPE during or immediately following exercise, this study is unique in the sense that RPE values were collected at the end of a 12-week training program. Further discussion on this can be found in the limitations section below. As RPE relates to running or other endurance modalities, research often looks at the correlations between perceptions among athletes and their coaches (Judge et al., 2020). However, some studies look at RPE in relation to overreaching programming that may lead to overtraining and an increased risk of injury or athlete burnout

(Siegl et al., 2017). With intensity as a scale, the cadets must be challenged objectively regarding their workouts to see adaptations to training demand (Alvar et al. 2017). On the other hand, workouts that are consistently overreaching regarding intensity may easily predispose cadets to injury due to a lack of physical preparedness (Brushoj et al., 2008). While this program was written to be in the middle of this spectrum, the results indicate that overall, the average responses reflect that the programming may be just under the median value of 3 for intensity between formation runs, circuit training, and defensive tactics: 2.19, 2.32 and 2.49 respectively. Despite the survey being conducted in anonymity, there is the possibility that the cadets reported lower levels of intensity due to internal desirability to perceive the workload as less intense. Moreso, previous research has explored social desirability when self-reporting physical activity levels, with participants commonly underestimating levels of intensity (Motl et al., 2005)

### *Behavioral Intention*

While exercise intention means were higher than the median value, (Running:  $M=4.23$ , Circuit Training:  $M=3.68$ , Defensive Tactics:  $M=4.13$ ) it is important to determine the connections between intention to exercise and actual exercise adherence in the future. It has been demonstrated in research that exercise intention can predict actual exercise adherence by way of action planning (Kompf et al., 2020; Zhu et al., 2022). A meta-analysis conducted to explore the relationships between behavior and intention found that the discordance between intention and behavior is largely motivational and habitual (Rhodes et al., 2013). Knowing this, physical training instructors can potentially improve exercise outcomes by increasing factors like behavioral control and autonomy throughout the academy.

The lack of specificity around the questions leaves a vagueness about the response variables that makes it difficult to identify any correlations. The term intensity by itself is suggestive and may lead to internal biases that may misrepresent the goal of the investigation. The exclusion of the agility training modality intention from being included in the questionnaire limits the opportunity for the study to explore the correlations of this variable where there may be a correlation.

While there was only one significant difference among intention variables (Circuit Training being reported lower), the results indicate a high mean intention for each modality (Running:  $M=4.23$ , Circuit Training:  $M=3.68$ , Defensive Tactics:  $M=4.13$ ). The means are higher than the median value of 3 on the survey. This indicates an above-average intention to continue these modalities, but more importantly, physical training in general. While the researchers were interested in exploring the differences between modality intention, the high levels of intention are equally, if not more important than finding statistical significance between the variables. Previous research highlights the connection between exercise intention, coping planning, and action planning in young adults (Hou et al., 2022). This research supports the notion of educating PT instructors in the academy as to the roles they play in integrating the importance of exercise into a cadet's career.

Exploring demographic differences yielded only one mildly significant result, the weak correlation between age and circuit training. The lack of difference between gender while maintaining high levels of intention has an inherently positive connotation for the study. Especially when previous research commonly demonstrates a lower exercise behavior in females (Mao et al., 2020).

### *Post Academy Implications*

Despite the lack of significance within this study, future research should continue to investigate the relationships between academy training perceptions and exercise adherence later in law enforcement careers. With the known health implications that were discussed previously (Luckhaupt et al., 2014; Violanti et al., 2006; Keeler et al., 2021), understanding the relationships that law enforcement members have with healthy lifestyles, including diet and exercise as well as mental health, changes can be made in the culture of law enforcement to improve health outcomes over careers.

### *Limitations*

As with most research, this study was not without its limitations. While the sample size was not of much importance and all cadets who were in the classes participated in the survey, some cadets did not complete the questions related to key variables in this survey. Most notably, twelve participants didn't disclose their age, while six participants did not fully complete the intensity and intention portions of the survey. While the missing data were excluded in pairwise comparisons, the data these participants did enter was included in other portions of the study. This was below 5% of the total sample and thus they were left in the study and it was not expected to affect the results (Schafer, J.L., 1999).

There is a lack of generalizability that must be taken into account. The results of this study were reflective of cadets in a structured PT program, and the results should not be generalized to all LEO academies.

Along with limitations regarding the participant responses, there were limitations within the survey. Rating the intensity on a scale based on intensity may not most appropriately name the metric the researchers were looking to identify. Due to the verbiage used, it is difficult to

determine the psychological reasoning behind why a cadet may have rated one modality as difficult, or why they may or may not intend to continue that modality. With populations such as law enforcement, there may also be a tendency to misrepresent an individual's satisfaction with difficult tasks if measuring intensity alone. There may be a tendency to underestimate an individual's satisfaction with a task if the perceived intensity is high compared to the general population.

Another limitation regarding this survey is the biases that may occur due to the timeframe in which the questionnaire was given in that the participants were asked to recall a perceived intensity average over the 12-week training period. While the intention variable would be best collected after the academy, future research may explore introducing the questionnaire at a higher frequency to reduce biases related to the recall of information.

## CHAPTER 6

### CONCLUSION

Due to the preliminary nature of this study, there are many opportunities for further researchers to refine and continue to investigate the principles observed herein. While findings were largely non-significant, the high rating of intention across all modalities indicates a high likelihood of actual exercise and potentially improved health outcomes over the career. This study fits in with current research involving police academy training while adding a behavioral intention component that may be insightful to future research involving long-term studying of exercise continuation. It is also unique in the investigation of RPE in its relation to behavioral intention, especially among a tactical population. Further definition and inclusion into variables that affect behavior may be warranted to gain a better understanding of those variables concerning exercise intention.

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## APPENDIX A- IRB APPROVAL

	<p><b>Institutional Review Board (IRB)</b>  Veazey Hall 3000  PO Box 8005 • STATESBORO, GA  30460 Phone: 912-  478-5465  Fax: 912-478-0719  <a href="mailto:IRB@GeorgiaSouthern.edu">IRB@GeorgiaSouthern.edu</a></p>
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**To:** Melton, Bridget; Klibert, Jeff; Grosicki, Greg; Cleveland, Richard **From:** Eleanor

Haynes, Director, Research Integrity

**Date:** 5/23/2022

**Current Expiration Date:** 2/28/2023

**Original Approval Date:** 3/12/2019

**Subject:** Status of Modification (**#6**) & Extension Request for Approval to Utilize Human Subjects in Research – Originally Approved by **Expedited Review**

After a review of your Extension & Modification Request for research project numbered **H19098**, and titled **“Physiological Profile of First Responders in Southeast United States,”** it appears that (1) the research subjects are at minimal risk, (2) appropriate safeguards are planned, and (3) the research activities involve only procedures which are allowable. You are authorized to enroll up to a maximum of **500** subjects.

*Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that the Institutional Review Board has approved your extension and modification.*

**Modification description:**

- The addition of Richard Cleveland as a Co-PI for this study has been approved.
- The addition of two surveys to this study has been approved.
- The increase in the number of study participants has been approved.
- The addition of a finger prick protocol to this study to assess cardiovascular risk has been approved.

Please provide the IRB with any information concerning any significant adverse event, **whether or not it is believed to be related to the study**, within five working days of the event. In addition, if a change or modification of the approved methodology becomes necessary, you must notify the IRB Coordinator **prior** to initiating any such changes or modifications. At that time, an amended application for IRB approval may be submitted. Upon completion of your data collection, you are required to complete a *Research Study Termination* form to notify the IRB Coordinator, so your file may be closed.

## APPENDIX B- SURVEY

### Informed Consent

#### Informed Consent

#### Passive Informed Consent Law Enforcement Training Program Feasibility and Effectiveness Survey

- 1) The purpose of this study is to provide insight into the feasibility and effectiveness of law enforcement training in relation to the preparedness, readiness, and resilience of first responders.
- 2) The primary investigator, Dr. Bridget Melton, Professor of Exercise Science at Georgia Southern University. You may contact her with questions at any point by phone (912-478-1973.) or by email (bmelton@georgiasouthern.edu).
- 3) Your participation in this study will include the completion of a 10-15 minute online survey on the impact of the LEO training program in relation to your perceived injury, intensity, mindset, and exercise intention.
- 4) Discomforts and Risks: Although the risk of participating is minimal, the questions may induce embarrassment or deal with sensitive issues.
- 5) Benefits: a. The benefits to you as a participant include a better insight on you might carry forward the resilience skills in the LEO training program. b. The benefits to society include the opportunity to help improve the training program for future classes.
- 6) Statement of Confidentiality: all surveys will be anonymous; the research team or agency will not be able to identify you. Data collected from this study will be shared with the home agent with aggregated numbers, meaning the averages and means for individual questions. The primary researcher and research team from Georgia Southern University will only access the data. The data will be maintained for a minimum of 3 years following completion of the study, a double password-protected computer within a secured research office will house the data.
- 7) Future use of data: Deidentified data from this study may be placed in a publicly available repository for study validation and further research. You will not be identified by name in the data set or any reports using information obtained from this study, and your confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies that protect individuals' and institutions' anonymity.
- 8) Right to Ask Questions: Participants have the right to ask questions and have those questions answered. If you have questions about this study, please contact the researcher named above or the researcher's faculty advisor, whose contact information is located at the end of the informed consent. For questions concerning your rights as a research participant, contact Georgia Southern University Institutional Review Board at 912-478-5465 or irb@georgiasouthern.edu.
- 9) Compensation: There will be no compensation for this study
- 10) Voluntary Participation: You don't have to participate in this research, and you may end this survey at any time by exiting the survey. There is no penalty for deciding not to participate in the study;
- 11) You must be 18 years of age or older to consent to participate in this research study. The Georgia Southern University Tactical Athlete Research Team listed may be used by and/or disclosed (released) to:
  - Dr. Bridget Melton (Principal Investigator)
  - Dr. Richard Cleveland (Investigator),
  - Nicholas Hunt (Investigator), and
  - Dr. Haresh Roshani (Investigator)

This project has been reviewed and approved by the GSU Institutional Review Board under tracking number H. Title of Project: Law Enforcement Training Program Feasibility and Effectiveness Survey  
Principal Investigator: Bridget Melton, Hollis 1127, 912-478-1973, bmelton@georgiasouthern.edu  
Completion of the survey indicates your willingness to participate in this research.

### Injuries

**Did you incur any injuries while in/at the academy? (*Off-duty or non-academy activities do not count*)**

- ☐ Yes  
☐ No

**If you incurred any injuries, please tell us the severity**

- ☐ Mild (recovered in within an hour ie muscular discomfort/strain, cuts, abrasions, etc.)  
☐ Moderate (rolled an ankle, shin splints etc.)  
☐ Severe (had to take >1 day off the academy training or medical care needed)

**For your mild injury, how many hours were you impacted? Insert N/A if mild was not selected.**

**For your moderate injury, how many hours were you impacted? Insert N/A if moderate was not selected.**

**For your severe injury, how many hours were you impacted? Insert N/A if severe was not selected.**

**Did you incur any prolonged physical discomfort or pain that lasted more than 24 hours during the academy?**

- ☐ Yes, if so how many days?  
  
☐ No



## Preparedness

**Before Day One of the Academy, rate your level of preparation, Mentally (Mindset). Your mental preparedness refers to your CONFIDENCE to remain focused, control your thoughts and manage stress.**

- ☐ Poor  
☐ Below Average  
☐ Average  
☐ Above Average  
☐ Excellent

**Before Day One of the Academy, rate your level of Resiliency. Your resilience refers to your perceived ability to recover from both mental and physical stressors**

- ☐ Poor  
☐ Below Average  
☐ Average  
☐ Above Average  
☐ Excellent

## Intensity

**The questions below ask your opinion on the the levels of intensity of different types of training.**

**In your opinion, what was the level of intensity for most training on AVERAGE?**

	Not challenging at all	Slightly challenging	Moderately challenging	Very challenging	Extremely challenging
Formation Runs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Circuit Training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agility Training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Defensive Tactics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Mental

**The questions below ask your opinion on various parts of mental skills training.**

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**As part of formal training, how many days per week do you practice Mindfulness Techniques (Combat Breathing, Body Scans etc.)**

- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5

**Outside of formal training, how many days per week do you practice Mindfulness Techniques (Combat Breathing, Body Scans etc.)**

- ☐ 0  
☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5  
☐ 6  
☐ 7

**How often do you remember practicing the mindset/mindfulness skills in the academy?**

- ☐ Far too little  
☐ Slightly too little  
☐ Neither too much nor too little  
☐ Slightly too much  
☐ Far too much

**How beneficial did you find the mindfulness techniques taught in the academy?**

	Not at all useful	Slightly useful	Moderately useful	Very useful	Extremely useful
Body Scans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deep/ Combat Breathing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Progressive Muscle Relaxation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Intention

Going forward after the academy, how likely are you to...

	Extremely unlikely	Somewhat unlikely	Neither likely nor unlikely	Somewhat likely	Extremely likely
maintain your physical training routine?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
continue a running routine?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
continue a circuit training routine?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
continue a combative/ DT training routine?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Going forward after the academy, how likely are you to use the mindfulness/mindset techniques?

- ☐ Extremely unlikely  
☐ Somewhat unlikely  
☐ Neither likely nor unlikely  
☐ Somewhat likely  
☐ Extremely likely

What did you like best about the PT program?

What did you like least about the PT program?

How can we improve the PT program?

## Demographics

What is your gender?

- ☐ Male  
☐ Female  
☐ Non-binary / third gender  
☐ Prefer not to say

What is your age?