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PHYSICAL FITNESS

# College Students Training Law Enforcement Officers: The Officer Charlie Get Fit Project

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## Abstract

*While most law enforcement agencies recognize the importance of physical fitness for their officers and encourage them to maintain an adequate level of fitness, many find it difficult to implement a fitness program successfully. Prior studies and literature support the implementation of community-centered fitness initiatives. The purpose of this study was to (1) describe participant outcomes from the service-learning project Officer Charlie Get Fit Project and (2) delineate Kolb's experiential learning model implemented by undergraduate kinesiology majors when applied in an exercise setting. Students were charged with working directly with police officers over an 8-week program with the goal of lowering health-risk factors for the participants. Additionally, the project provided an opportunity for students to assess their own learning style and infuse it in a real-world professional application. Participants included 16 police officers (M = 44.6, SD = 10.7 years of age) and one elected city administrative official. Paired sample t tests revealed nonsignificant differences between the pretest and*

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*posttest scores on the 10 fitness measures. Descriptive statistics revealed improvements in categories of body weight, BMI, waist circumference, hip circumference, resting heart rate, systolic blood pressure, diastolic blood pressure, sum of skinfolds, and overall body fat percentage. Participant exit interviews indicated positive qualitative results. The student reflection piece indicated that the frequent writing helped with (1) the myriad of planning and preparation issues, (2) selecting a community partner and recruiting participants, and (3) data collection and analysis. This study was an important assessment of immersive learning opportunities provided through classroom lecture and development of community partnerships.*

Police officers can encounter strenuous physical and mental situations every day. Their ability to handle the rigors associated with the occupation including running, lifting, and forceful self-defense is directly related to their overall level of fitness. It is important for police officers to be in good physical condition to perform their competencies and ensure individual and collective safety (Rhea, 2015). Most law enforcement agencies recognize the importance of physical fitness and encourage officers to maintain an adequate level of fitness. However, many officers find it difficult to implement a personal fitness program, while others doubt the necessity of such programs. Due to the increased demands related to public security, especially regarding crime and violence, public safety officers need to be physically, mentally, and technically able to deal with these situations to ensure or restore social order (Marins et al., 2018; Marins et al., 2019). Regular physical activity is beneficial to law enforcement officers because it can help officers deal with the emotional stress and pressures that come with policing (Ebling, 2002). Physical activity has also been linked to positive job performance in law enforcement. Officers who are physically fit tend to be more committed to their job, have better job performance, are less stressed, and enjoy greater job satisfaction (Bissett et al., 2012; Boni, 2004).

Despite the benefits that physical activity brings to the policing profession, studies have shown that the physical fitness rate in law enforcement is astonishingly low. In a survey by Bissett et al. (2012), 27% of incumbent law enforcement officers said that they would not be able to pass a common physical agility test. In fact, research shows that police officers tend to have poorer health and are less physically

fit than the general U.S. population (Ebling, 2002). Forty percent of police officers, firefighters, and security officers are obese (Nicks, 2014), and a study conducted by the FBI ("FBI," 2014) found that 80% of police officers nationwide are overweight. In another study, law enforcement officers had the highest rate of diabetes, heart disease, and suicide out of the 149 professions surveyed (Getz, 1990). In addition to not meeting general fitness requirements, some law enforcement officers doubt the importance of physical activity to their careers. In the Bissett et al. (2012) survey, officers ranked both physical fitness and agility last as skills that were important to policing.

Other studies have found that police officers are at a risk for developing health consequences including, but not limited to, metabolic syndromes, type 2 diabetes, hypertension, cardiovascular disease (Williams & Ramsey, 2017), and hypertriglyceridemia (Garbarino & Magnavita, 2015). Due to the large proportion of police officers found to be overweight, they are candidates for chronic health problems and an increased risk of premature mortality caused by a manifestation of associated symptoms.

Indiana has been listed as the 15th most obese state in the nation with 31.3% of the adult population being considered obese (BMI 30.0+; State of Childhood Obesity, 2016). A recent study by the University of Wisconsin Population Health Institute (County Health Rankings and Roadmaps, 2018) ranked Delaware County 85th out of Indiana's 92 counties in terms of overall health outcomes. According to County Health Rankings statistics, 32% of all adults in Delaware County are obese and 31% are physically inactive (County Health Rankings and Roadmaps, 2016).

One unique occupational opportunity law enforcement has is working in college towns or university campuses around the nation. These police officers have the opportunity to routinely interact with young adults and assist them in a variety of ways. However, the perception police officers and young adults hold of each is not always positive. During the Officer Charlie project, young adults had the opportunity to engage with police officers through a service-learning initiative while providing support to them.

Parkhouse (2001) identified two types of experiential learning activities: nondiscrete and discrete. Nondiscrete activities are extensions or components of a specific academic course or program.

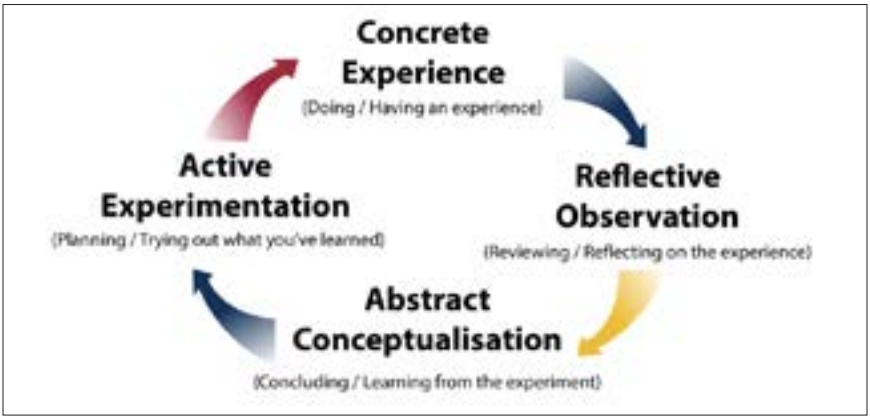
Southall et al. (2003) identified several nondiscrete applications in sport management courses such as field projects, field trips, interviews, site visits, and role play activities. Discrete activities are self-contained and constitute a separate entity from the traditional on-campus educational setting; oftentimes, a community partner is involved. Discrete learning within the sport and exercise science setting allows students to make the connection between cognitive classroom theories and concrete sport management experiences. Examples of discrete learning experiences include cooperative education, field study, internships, and service-learning programs (Parkhouse, 2001).

Service learning is a method of teaching where students apply their academic skills and knowledge to address real-life needs in their own communities. Service learning is a pedagogical strategy that facilitates a student's growth in academics, social maturity, critical thinking, communication, collaboration, and leadership skills (Meyer et al., 2004). This educational opportunity possesses enormous potential to move higher education in the direction of civic involvement by taking the classroom into the community. Service learning includes an intentional and structured educational/developmental component for students and is most typically employed in curricular settings for academic credit (Bringle & Hatcher, 1995). While service-learning courses are offered in almost all fields, in recent years there has been a growing trend to apply this concept specifically to the fields of kinesiology and physical education (Whitley & Walsh, 2014). Many consider this service-learning concept to be the future of education, no matter what the field, as it allows for a symbiotic relationship between students, teachers, communities, and the universities themselves (Whitley & Walsh, 2014).

Kolb's four-stage learning cycle (Figure 1) shows how experience is translated through reflection into concepts, which in turn are used as guides for active experimentation and the choice of new experiences (Woods, 2012). Kolb's learning cycle supports experiential learning, which says that learning can happen only through experience (Woods, 2012). Kolb believes that our elements of thought are not fixed and thus are measurable by how many new concepts a student has gathered over time when exposed to specific stimuli (Kolb, 1984; Woods, 2012). Kolb's theory differs from behavioral learning

methods, which suggest that ideas and knowledge are static concepts, rather than fixed. Kolb's model contains two continuums—"Ways of Knowing" and "Ways of Understanding" (Woods, 2012). The "Ways of Knowing" continuum includes the concrete experience and abstract conceptualism stages, while the "Ways of Understanding" includes reflective observation and active experimentation.

**Figure 1**
*Kolb's Four-Stage Learning Cycle*




The first stage, concrete experience (CE), occurs when the learner actively experiences an activity such as a lab session or fieldwork. The second stage, reflective observation (RO), involves the learner consciously reflecting back on that previous experience. Kolb considers RO an intention type of understanding, where meaning is derived from reflection and thought (Woods, 2012). In the third stage, abstract conceptualization (AC), the learner attempts to conceptualize a theory or model of what is observed. In the fourth and final stage, active experimentation (AE), the learner is trying to plan how to test a model-theory or plan for a forthcoming experience. Kolb categorizes AE as extension understanding, where meaning is derived from actual use and trial (Woods, 2012).

Kolb believes that happiness changes throughout the cycle and is relative to each individual. The stage in which an individual experiences the most happiness indicates their preferred learning style. While all individuals can learn from all four of Kolb's styles,

individuals tend to prefer one specific style. Learning can begin to occur at any of the four steps in the cycle, depending on the learning style of the individual (Young, 2002). However, the learning and experience are thought to be more effectual when an individual engages in all four steps (Young, 2002).

The purpose of this study was to (1) describe the service-learning project Officer Charlie Get Fit Project participant outcomes as they relate to physical fitness in law enforcement and (2) delineate Kolb's experiential learning model implemented by undergraduate kinesiology majors when applied in an exercise setting. Overall satisfaction with the program led by the students was also assessed.

## Method

### Participants

This study examined two groups of participants: Ball State University students in the class responsible for implementing the service-learning project and community police officers participating in the Officer Charlie Get Fit Project. Twenty-two Ball State University students ranging in age from 18 to 23 years ($M$ = 20.27, $SD$ = 1.69) and 16 police officers ($M$ = 44.6, SD = 10.7 years of age) and one elected city administrative official participated in the study. Participants under the age of 18 years were excluded from the study. Approximately 82% of police officers were from the local Ball Sate community in Delaware County. This study was approved by the Institutional Review Board at Ball State University and carried out in conformity with the ethical standards of the Declaration of Helsinki.

### Protocol

The timeline to plan the Officer Charlie Get Fit Project began in January when faculty members involved with the project sought internal and external grant funding opportunities. The Officer Charlie Get Fit Project obtained grant funding from sources such as Indiana Campus Compact. The week prior to the 8-week intervention consisted of implementation of the education program and baseline assessments. Baseline assessments included

- self-reported height (in.)
- weight (lb)
- resting heart rate (bpm)

- resting blood pressure (mmHg)
- waist and hip measurements (cm)
- hand grip strength (kg)
- flexibility
- muscular endurance (push-up and sit-up)
- plank hold
- YMCA step test
- 3-site skinfold (mm)

After baseline assessments were conducted, the student leaders recorded individual deficiencies to target the exercise plan specifically for the needs of each police officer. Students conducted postassessments the week immediately following the 8-week intervention.

On a weekly basis, student partners were tasked with developing the week's workout (see Table 1), which included exercise to address range of motion, muscular strength and endurance, and balance. The student partners were required to get approval of the exercise program from the supervising faculty member prior to introducing the program to their assigned participant each week. Students met with the officer for two sessions a week (16 sessions total). The sessions were an hour each, totaling 32 hr at the end of the 8 weeks. At the conclusion of the program, the police officers completed a brief survey related to their satisfaction with the program led by the students and were offered the opportunity to make recommendations for improvements for future programming.

**Table 1**
*Participant Training Program Day 1*

| Legs Day 1 | Intensity | Sets | Reps | Rest between sets (min) |
|---|---|---|---|---|
| Front squats | Low–moderate | 3 | 10 | 3 |
| Leg press | Low–moderate | 3 | 10 | 1–2 |
| Standing good mornings | Low–moderate | 3 | 10 | 1–2 |
| Step-ups | Low–moderate | 5 | 5 jumps | 1–2 |
| Lunges | Low–moderate | 3 | 10 each side | 1–2 |

**Table 2**
*Participant Training Program Day 2*

| Arms Day 2 | Intensity | Sets | Reps | Rest between sets (min) |
|---|---|---|---|---|
| Bench press | Low–moderate | 3 | 10 | 1–2 |
| Lat pull down | Low–moderate | 3 | 10 | 1–2 |
| Bicep curls | Low–moderate | 3 | 10 | 1–2 |
| Triceps press | Low–moderate | 3 | 10 | 1–2 |
| Push-ups | Low–moderate | 3 | 8 (burnout first week) | 1–2 |

**Table 3**
*Participant Training Program Day 3*

| Core/flexibility Day 3 | Intensity | Sets | Reps | Rest between sets (min) |
|---|---|---|---|---|
| Knee hugs | Low | 3 | 8 | 1–2 |
| Crunches | Low–moderate | 3 | 10 | 1–2 |
| Jump rope | Low–moderate | 3 | 30 s | 3 |
| Russian twist | Low–moderate | 3 | 8 | 1–2 |
| Medicine ball slams | Low | 3 | 8 | 3 |
| Plank | Low–moderate | 3 | 15 s | 1–2 |

The Officer Charlie project was evaluated across three spectrums. Survey Instrument I was distributed to the community police officers upon the conclusion of the exercise program. It consisted of 14 questions, each written at an elementary school reading level. Of the 14 questions, 12 were multiple-choice questions addressing demographic information (i.e., age and gender, 2 items; previous exercise activity, 4 items; participants' opinions with respect to program effectiveness, 4 items; and participants' opinions with respect to educational opportunities related to wellness and healthy active lifestyles, 2 items). An additional two questions were open-ended. The first question asked participants about perceived drawbacks of the program and how they might change the project for the future. The second question assessed perceived benefits from the program.

Content validity was established in two ways. Experts reviewed the survey questions for clarity and construction. Only minor editing was required to improve the clarity of questions. Wording of the questions was designed to include descriptive information to counteract against misunderstanding of key terminology. Response choices were similarly worded to maximize participant comprehension.

Survey Instrument II was distributed to the 22 Ball State University students in the class. It contained five items (Table 4). Components of the evaluation led students to examine the success of the event, analyze the results of the postevent survey, and compare and contrast their real-life experience with the theoretical knowledge that they previously obtained in sport administration classes.

The Officer Charlie project was also evaluated via traditional pretest and posttest analysis of the fitness measures. The following categories were analyzed: body weight, BMI, waist circumference, hip circumference, resting heart rate, systolic blood pressure, diastolic blood pressure, sum of skinfolds, and overall body fat percentage (Table 5).

**Table 4**
*Student Evaluation Questions for Assessment of Officer Charlie Project*

| |
|---|
| Did you apply concepts you learned in class when managing your police officer in the Officer Charlie Get Fit Project? |
| Do you feel the experience you gained in managing the Officer Charlie will apply to future career opportunities? |
| Would you feel comfortable in a personal training position following graduation? |
| Give an example when you used critical thinking to solve a problem that arose during Officer Charlie. |
| In what ways is having the class operate Officer Charlie beneficial for students in the Exercise Science program? |

**Table 5**
*Participant Results*

| Category | Preassessment *M* | Postassessment *M* | Difference % |
|---|---|---|---|
| Weight | 189.4 lb | 186.3 lb | -1.64 |
| BMI | 28.86 kg/m$^2$ | 28.71 kg/m$^2$ | -0.05 |
| Waist circumference | 99.37 cm | 96.54 cm | -2.85 |
| Hip circumference | 112.92 cm | 108.93 cm | -3.53 |
| Resting heart rate | 79.95 bpm | 76.21 bpm | -4.68 |
| Systolic blood pressure | 120.42 mmHg | 119.37 mmHg | -0.087 |
| Diastolic blood pressure | 78.95 mmHg | 81.26 mmHg | +2.93 |
| Sum of skinfolds | 84.68 mm | 78.32 mm | -7.51 |
| Body fat percentage | 0.288% | 0.266% | -7.64 |

Students and officers implemented Kolb's four-stage learning cycle throughout the study. Stage 1 (concrete experience) was implemented during the development and conduction of each workout. Stages 2 (reflective observation), 3 (abstract conceptualization), and 4 (active experimentation) were implemented through participation and evaluation of Survey Instrument I and II, wherein officers and students consciously reflected on their experience while participating in the Officer Charlie project and students analyzed suggestions provided by officers for improved future collaborative projects between Ball State students and Delaware County law enforcement officers.

## Statistical Analyses

A mixed methods approach was employed for data analysis. We used descriptive statistics to analyze multiple-choice components of Survey Instrument I. We employed paired sample *t* tests to analyze the fitness measures: body weight, BMI, waist circumference, hip circumference, resting heart rate, systolic blood pressure, diastolic

blood pressure, sum of skinfolds, and overall body fat percentage. We analyzed open-ended responses from both survey instruments using the qualitative method of content analysis (Krippendorff, 1980; Tritschler, 2000). This content analysis included response review, identification of themes, and classification of responses according to the identified themes, thereby giving voice to the viewpoints expressed regarding the Officer Charlie project. These qualitative data add further depth of discovery regarding key issues surrounding the event. We conducted quantitative analyses using a modern statistical software package (SPSS version 21.0 for Macintosh). Statistical significance for all analyses was established a priori at $\alpha < .05$.

## Results

Although the variables (body weight, BMI, waist circumference, hip circumference, resting heart rate, systolic blood pressure, diastolic blood pressure, sum of skinfolds, and overall body fat percentage) trended toward improvement over the 8 weeks, there was not a significant difference revealed by paired sample *t* test. Core endurance improved significantly (12.8%; $p = \leq 0.01$) in the number of sit-ups across the 8-week training program (Week 1: $M = 41$, $SD = 6.8$; Week 8: $M = 48$, $SD = 6.7$). Upper body endurance increased significantly (17.3%; $p = < 0.01$) in the number of push-ups completed across the 8-week training program (Week 1: $M = 43$, $SD = 6.14$; Week 8: $M = 50$, $SD = 6.15$).

Students, faculty, and community participants represent the stakeholders benefiting from this type of service-learning project. Components of the evaluation led students to examine the success of the event, analyze the results of the postevent survey, and compare and contrast their real-life experience with the theoretical knowledge that they had obtained in kinesiology classes. One student commented on the program evaluation, "Yes, I applied concepts from class into managing the Officer Charlie Get Fit Project. I also was able to learn new approaches and techniques through hands-on experience." Exit interviews with participants indicated positive qualitative results as well (Table 6). During her exit interview, Officer Amy said she was "overall more fit, happier, and healthier." Other direct student input from the written evaluations of this experience supported the project's value, with statements presented in Table 7.

**Table 6**
*Participant Qualitative Results*

| Variable | Measure |
|---|---|
| Work performance | Increase |
| Overall well-being | Increase |
| Personal well-being | Increase |
| Confidence | Increase |
| Energy | Increase |

**Table 7**
*Qualitative Student Feedback on the Officer Charlie Project*

"I could never imagine training a policeman . . . It was great to able to plan and execute a project like this. The instructor provided just enough guidance but allowed the project to be student work!"

"This project has completely changed my perception of law enforcement officers. My respect and admiration for the police is at an all-time high. I am pretty sure the lessons learned in this project will be with me the rest of my life."

"There are multiple reasons the Officer Charlie project is beneficial for all students. Participation provided hands-on work experience that cannot be gained in the classroom. In this profession, relative work experience and the development of soft skills are the keys to moving forward in the industry."

"In this industry, any direct experience you can gain is extremely valuable, and I feel the experience working with the police gained through Officer Charlie will be extremely valuable moving forward in my career. I absolutely feel that the experience I have gained through the Officer Charlie project will benefit me in future career endeavors."

"Yes, I think this experience really opened my eyes to law enforcement and is a lot more than a résumé builder. It was a great experience for me and will allow me to execute future events."

## Discussion

The purpose of this study was to describe participant outcomes from the service-learning project Officer Charlie Get Fit Project and delineate Kolb's experiential learning model implemented by undergraduate kinesiology majors when applied in an exercise setting. Although there were no significant differences with the pretest and posttest data, results provide evidence that students and officers found the partnership to be a rewarding and positive learning experience. Police officers can encounter taxing physical and mental conditions in their day-to-day jobs. Thus, physical fitness should be prioritized and implemented within the law enforcement department. Despite the proven physical, emotional, and psychological benefits provided by regular physical activity (Bissett et al., 2012; Boni, 2004), the average U.S. police officer is less fit than members of the U.S. population (Ebling, 2002). Throughout the 8-week program, officers showed significant improvements in core and upper body muscular endurance. In addition, body weight, BMI, waist circumference, hip circumference, resting heart rate, systolic blood pressure, diastolic blood pressure, sum of skinfolds, and overall body fat percentage all trended toward improvement at the end of the 8-week training session. These results are similar to those found in a study by Crawley et al. (2016) in which 55 Police Academy Cadets were put through a 16-week training course that included weight, resistance, plyometric, and aerobic exercises. The study by Crawley et al. (2016) used similar baseline fitness tests including skinfold, upper body and core muscular endurance, lower body power, bench press, and other agility tests. At the 8-week mark of the assessment, there were significant improvements in the cadets' core and upper body muscular endurance measured by sit-ups ($p < 0.01$) and push-ups ($p \leq 0.05$). Correspondingly, Officer Charlie results showed core endurance improvements (measured in sit-ups) of 12.8% ($p \leq 0.01$) across the 8-week training program and an upper body endurance improvements (measured in push-ups) of 17.3% ($p \leq 0.01$).

A study by Cocke et al. (2016) also corroborates results regarding the associated training programs effects on core and upper body muscular endurance. The Cocke et al. (2016) study tracked 70 male and 20 female police academy cadets over 6 months of training. The cadets were divided into periodized and randomized training

groups. Training exercises used were very similar to those used in the Crawley et al. (2016) study and this study, including push-up and sit-up tests, bench press, and high-intensity training exercises. Both the periodized and randomized training groups experienced improvements in core and upper body muscular endurance, which were tested by sit-up and push-up tests, respectively. Between the pretraining and posttraining results, there was a significant improvement in both core muscular endurance and upper body muscular endurance for the two groups. Both Crawley et al. (2016) and Cocke et al. (2016) concluded that physical fitness programs improve the overall fitness of police officers. The results of this study also support improvements in a number of individual parameters of physical fitness during the 8-week program.

The Officer Charlie program sought to create and implement a physical activity program for Delaware County law enforcement officers while providing a service-learning experience for undergraduate kinesiology majors. Serving-learning projects are at the forefront of modern education, with many practitioners heralding it as the future of education due to its hands-on experience and community partnership aspects (Whitley & Walsh, 2014). Kolb's four-stage experiential learning was used as a guide for the service-learning course due to its coinciding belief that learning happens through experience. Research examining Kolb's (1984) experiential learning cycle substantiates the idea that the module encourages high levels of student engagement and facilitates a level of personal involvement and reflection in higher education (Groves et al., 2013). Throughout the Officer Charlie Get Fit Project, students were immersed in a real-world environment consistent with the approach encouraging experiential learning within each element of Kolb's cycle. Qualitative results provide evidence that this approach allows students to gain valuable work experience and is beneficial for the development of both the students and the community law enforcement officials. Additionally, this approach provides an opportunity for students to assess their own learning style and infuse it in a real-world professional application.

Despite the strengths of this study, there are some limitations. The qualitative student data were collected at the end of the Officer Charlie Get Fit Project and thus there may be variance due to

respondent deception. This project was part of the curriculum for an undergraduate course in kinesiology. Therefore, the data may contain error as a result of subjective biases, presenting the Ball State faculty with a false impression of the benefits and drawbacks related to the project. The results are also limited because we studied a convenience sample of students and law enforcement officials from one Midwest university. Nonetheless, this study presents new data suggesting that this methodology could have broad applications for professionals seeking to impact fitness and wellness in their communities. Future investigators should determine what types of exercises are the most beneficial for the target population and how frequently sessions should be held. In addition, students should work with law enforcement officers to devise a plan of effective implementation. Additional research needs to address these questions and build upon the foundation of already existing studies.

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