

LAW ENFORCEMENT HEALTH AND DIET HABITS ACROSS ACTIVE-DUTY SHIFTS

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Abstract

An examination of the responses from active-duty law enforcement and the impacts that each specific shift has on their diet and exercise habits when working. This study uses answers from survey data to analyze various positions to see what trends occurred while working specific shifts. Additionally, this study looks at the habits of active-duty law enforcement to see what should be done to increase healthy habits. The results of this study indicated that officers tend to have more negative exercise and diet habits when working night shifts and access to gyms and healthier food options is diminished.

Keywords: Habits, Police Officers, Exercise, Food, Health

1. Introduction

The purpose of this study was to understand the impacts varying shifts have on diet and exercise habits of active law enforcement officers. Prior to now, studies have examined similar variables amongst firefighters.(Yang et al, 2015 & Torre et al., 2019). Research in this area is available but limited in scope with regards to law enforcement (MacKenzie-Shalders et al., 2020, Kosmadopoulous et al., 2020, & MacKenzie-Shalders, et al., 2022), and to date has only been completed outside of the United States.

Law enforcement is often times seen as a dangerous and stressful job. One in which individuals are required to respond to a myriad of physically, mentally and even psychologically challenging situations. Health and wellness is incredibly important in this profession, especially considering they are at a higher risk of cardiovascular disease (MacKenzie-Shalders, 2022). Additionally, these individuals have been seen to have higher levels of hypertension, cholesterol, and obesity which can potentially be caused by higher stress, deprivation of sleep, rotating work shifts, working overtime, and unhealthy lifestyles, including but not limited to poor diet and exercise habits (MacKenzie-Shalders, 2022).

Dietary intake of law enforcement and firefighters have shown that barriers to eating healthy may exist. These barriers may include busy lifestyles, unusual working hours, time requirements to prepare food, price of food and skills for cooking (MacKenzie-Shalders, 2020). Additionally, habitual eating patterns, personal taste, time, and lack of willpower in regards to preparing healthier foods or eating nutritious food is seen as main barriers in firefighters (Torre et al., 2019). Similarly, police officers regularly operate under varied shift schedules (MacKenzie-Shalders,2022), which may, by itself, also create a barrier to exercise and healthy dietary habits. Law enforcement officers are also required to work on shifts, with the hours being first shift (0700-1500), second shift (1500-2300) and third shift (2300-0700). Access to food and timing are a key factor being examined in this study as it is predicted that those in second and third shift may have less access to nutritional food options. Another factor that may play into this is the area in which individuals are working. Those in more rural or even urban communities may experience food deserts during shifts could ultimately impact their health. Important health and job-related contributors such as cardiovascular health and endurance could

be impacted by this phenomenon as individuals may have to make food choices based on availability and compliance which may result in poor quality or less nutrient dense foods (Testa, 2020). Additionally, it was shown that programs such as SHIELD had been effective short-term at promoting healthy habits in law enforcement and supporting personnel. This program also had long term effects such as reduction in alcohol and tobacco consumption and increase in healthier eating including fruits and vegetables (Keuhl, 2016).

2. Methods

A conventional way to plan a manuscript is to construct an outline. An outline has two interacting purposes. One is to shape the technical information in logical order and other is to help in organizing and thinking about paper. It should be flexible. The main text should be divided into several sections and subsection. There should be continuity in the presentation. The style of sections and subsection are generally given in the guidelines of the journal. If nothing is available, it is preferable to see the previous issue of the journal concerned. The complex mathematical derivation should be placed in the appendix of the paper, which is placed at end of the paper.

2.1 Methods: In looking at this, a questionnaire that touched on diet and exercise habits and what shifts had the most impact on those factors, was sent to law enforcement officers across Northern Illinois. 96 agencies across Illinois counties were provided a survey, where participants were asked to report on diet and exercise habits through the shifts that they work. Demographic data from the survey included: gender (male, female, other, or the option to choose to not disclose) , age category (20-29, 30-39, 40-49, 50-59, and 60+), job category (patrol, patrol sergeant, detective, administration, crime scene, detective sergeant, and communications), and what municipality their department was most closely related to (Urban, Suburban, Rural, or other). There were 41 questions which were separated into two separate sections: one section for exercise habits and one for dietary habits. 96 individuals started the survey and 78 completed it.

This study was approved by the Institutional Review Board for the protection of human subjects at Northern Illinois University (HS24-0191).

3. Results

Questions asked through this research were: Across multiple shifts, is there a self-reported difference in diet and exercise habits of law enforcement officers and does law enforcement officer rank and/or position impact the presence of poor exercise and diet in self-reported surveys?

Across multiple shifts, is there a self-reported difference in diet and exercise habits of law enforcement officers?

Table 1: Specific Unhealthy Shift

		Patrol	Patrol Sgt	Detect ive	Admi n	Crime Scene	Detect ive Sgt	Com munic ations	Total	Perce ntage total
	Day	6	2	0	3	1	0	1	13	16.67 %
Shift	Eveni ng	5	1	0	1	0	1	1	22	28.21 %

	Night	12	7	8	5	0	2	0	43	55.13 %
Total		23	10	8	9	1	3	2	78	100%
Percentage Total		29.49 %	12.82 %	10.26 %	11.54 %	1.28%	3.85%	2.56%	100%	

As shown in Table 1, when compared across 3 different shifts (day, evening, night), 78 officers felt that they are most unhealthy on a particular shift which equates to 97.5% of the surveyed population. Of those who reported “yes” to an unhealthy shift, 16.7% reported day, 28.2% reported evening, and 55.1% reported night as the shift they felt most unhealthy during. Of those who reported evening shift, roughly 30% were patrol officers.

Table 2: Activity Level and Specific Unhealthy Shift

		Day	Evening	Night	Total	Percentage Total
Activity Amount	Less Active	5	4	5	14	24.56%
	As Active	4	3	11	17	31.58%
	More Active	4	2	19	25	43.86%
Total		13	9	35	57	100%
Percentage Total		22.81%	15.79%	61.40%	100%	

Table 3: Regular Exercise and Unhealthy Shift

		Day	Evening	Night	Total	Percentage Total
Exercise	Yes	7	4	22	33	57.89%
	No	6	5	13	24	42.11%
Total		13	9	35	57	100%
Percentage Total		22.81%	15.97%	61.40%	100%	

Table 4: Exercise Amount and Unhealthy Shift

		Day	Evening	Night	Total	Percentage Total
Exercise Amount	Less Than Needed	12	7	24	43	75.44%
	As Much as Needed	1	2	11	14	24.56%
Total		13	9	35	57	100%
Percentage Total		22.81%	15.79%	61.40%	100%	

As shown in Table 2, individuals also were asked if they felt they were less active, as active, or more active than individuals their age across the shift that they worked. Results were then compared across the three shifts being observed. 24.56% reported to being less active than their

peers, 31.6% reported being as active, and 43.7% reported being more active than their peers. Table 3 indicated the responses to whether individuals followed a normal exercise routine. 57.9% reported yes and 42.1% reported no. Of those who reported no, 72.7% were those who worked overnight shifts.

Table 4 shows the shifts and if individuals during that shift felt that got less than needed or as much as needed exercise. 75.4% of responses indicated that individuals felt that they got less exercise than needed while 24.6% felt that they got as much exercise as needed.

Does law enforcement officer rank and/or position impact the presence of poor exercise and diet in self-reported surveys?

Table 5: Activity Level Across Positions

		Patrol	Patrol Sgt	Detective	Admin	Detective Sgt	Communications	Total	Percentage Total
Activity Level	Less Active	9	1	1	5	2	6	24	30.77%
	As Active	11	4	3	3	0	0	21	26.92%
	More Active	11	8	8	4	1	1	33	42.31%
Total		31	13	12	12	3	7	78	100%
Percentage total		39.74%	16.67%	15.38%	15.38%	3.85%	8.97%	100%	

Table 5 shows the responses across positions and if the individuals felt that they were less active, more active, or as active as their peers. 30% felt that they were less active than peers, 26.9% as active and 42.3% more active. Of those who were less active than their peers, 37.5% were patrol officers, 4.2% were patrol sergeants, 4.2% were detectives, 20.8% were admin, 8.3% were detective sergeants, and 25% were telecommunications. Of those who felt they were as active, 52.4% were patrol officers, 16.7% were patrol sergeants, 12.5% were detectives and admin. Those who felt they were more active included, 33.3% of patrol officers, 24.2% of patrol sergeants, 24.2% of detectives, 12.1% of admin, and 3% of detective sergeants and telecommunications.

Table 6: Exercise Routine Across Positions

		Patrol	Patrol Sgt	Detective	Admin	Detective Sgt	Communications	Total	Percentage Total
Exercise Routine	Yes	18	8	8	6	2	0	42	53.85%
	No	13	5	4	6	1	7	36	46.15%
Total		31	13	12	12	3	7	78	100%
Percentage Total		39.74%	16.67%	15.38%	15.38%	3.85%	8.97%	100%	

Table 6 shows the responses to whether officers followed a regular routine of exercise. Officers were asked if they followed a regular routine of exercise. Of those surveyed, 54% followed a normal routine of exercise and 46% did not follow a normal routine of exercise. 58.1% of patrol officers reported to following a regular exercise routine, while 41.9% of patrol officers reported to not following a regular exercise routine.

Table 7: Amount of Exercise Across Positions

		Patrol	Patrol Sgt	Detective	Admin	Detective Sgt	Communications	Total	Percentage Total
Exercise Amount	Less than needed	24	8	7	10	3	7	59	75.64%
	As much as needed	7	5	5	2	0	0	19	24.36%
Total		31	13	12	12	3	7	78	100%
Percentage Total		39.74%	16.67%	15.38%	15.38%	3.85%	8.97%	100%	

As shown by Table 7, officers were asked if they felt that they got less or as much as needed for exercise. Of those surveyed, 75.6% felt they got less exercise than needed and 24.4% felt they got as much as needed. 77.4% of patrol officers reported less exercise than needed while 22.6% reported as much exercise as needed.

Table 8: Day Shift Food Intake Across Positions

		Patrol	Patrol Sgt	Detective	Admin	Detective Sgt	Communications	Total	Percentage Total
Food Type	Home-cooked	15	9	10	8	2	5	49	63.64%
	Restaurant	12	2	2	2	1	0	19	24.68%
	Pre-cooked	3	2	0	2	0	2	9	11.60%
Total		30	13	12	12	3	7	77	100%
Percentage Total		38.96%	16.88%	15.58%	15.58%	3.90%	9.09%	100%	

Table 8 shows the responses to what individuals ate during day shifts. During the day, 64.6% reported to home cooked meals, 24.1% reported restaurant meals, and 11.4% reported pre-cooked meals. Home cooked meals were reported by 50% of patrol officers, 62.5% of patrol sergeants, 75% of detectives, , 66.6% of detective sergeants, and 57.14% of telecommunications. Restaurant meals were reported by 40% of patrol officers, 15.4% of patrol sergeants, 25% of detectives, and 16.6% of admin.

Table 9: Evening Shift Food Intake Across Positions

		Patrol	Patrol Sgt	Detective	Admin	Detective Sgt	Comms	Total	Percentage Total
Food Type	Home-cooked	15	15	9	7	2	3	51	54.26%
	Restaurant	11	11	3	2	1	3	31	32.98%
	Pre-cooked	4	4	0	3	0	1	12	12.77%
Total		30	30	12	12	3	7	94	100.00%
Percentage Total		38.96%	31.91%	12.77%	12.77%	3.19%	7.45%	100.00%	

Table 9 indicated the responses to what meals eaten during evening or afternoon hours shifts. Results indicated that 54.4% reported home cooked meals, 29.1% reported restaurant meals, and 17.7% reported pre-cooked meals. The most significant findings were that of those who reported home cooked meals, 50% were patrol officers, 61.5% were patrol sergeants, 75% were detectives, 58.3% were admin, 66.6% of detective sergeants, and 42.9% of telecommunications. Restaurant meals were reported by 36.7% of patrol officers, 23% of patrol sergeants, and 25% of detectives.

Table 10: Night Shift Food Intake Across Positions

		Patrol	Patrol Sgt	Detective	Admin	Detective Sgt	Comms	Total	Percentage Total
Food Type	Home-cooked	13	8	8	6	2	4	41	53.25%
	Restaurant	12	3	4	1	1	1	22	28.57%
	Pre-cooked	5	2	0	5	0	2	14	18.18%
Total		30	13	12	12	3	7	77	100.00%
Percentage Total		38.96%	16.88%	15.58%	15.58%	3.90%	9.09%	100.00%	

As shown in Table 10. reports for those surveyed on what they eat during night shift. Results indicated 54.43% had home cooked meals, 27.9% had restaurant meals, and 17.7% had pre-cooked meals. For home cooked meals, 43.3% were patrol officers, 61.5% were patrol sergeants, 50% were admin, 100% were vehicle rec and crime scene, 66.6% were detective sergeants, and 57% were telecommunications. Significant findings for reported restaurant meals came from 40% of patrol officers, 23% of patrol sergeants, 33% of detectives.

Table 11: Day off Food Intake Across Positions

		Patrol	Patrol	Detecti	Admi	Detecti	Com	Total	Percenta
		Sgt	Sgt	ve	n	ve Sgt	ms		ge Total
Food Type	Home-cooked	30	13	12	11	2	6	74	96.10%
	Restaurant	0	0	0	0	0	1	1	1.30%
	Pre-cooked	0	0	0	1	1	0	2	2.60%
Total		30	13	12	12	3	7	77	100.00%
Percentage Total		38.96%	16.88%	15.58%	15.58%	3.90%	9.09%	100.00%	

Table 11 indicates the responses of individuals who were also asked to report on what they ate on a day off work. Significant findings indicated that 96.2% of those surveyed had home cooked meals on days off. This included 100% of patrol officers, patrol sergeants, detectives, vehicle rec, and crime scene; 91% of admin reported home cooked meals as well as 66.6% of detective sergeants and 86% of telecommunications.

4. Conclusions

Based on the data provided by participants, this research study concludes that working hours of law enforcement officers has a visible and self-reported impact on exercise and dietary habits in active-duty law enforcement officers. Barriers exist to officers participating in regular exercise across all shifts but were most impacted during overnight working hours. Dietary habits of officers changed between working shifts including greater reporting of restaurants, eating out and snacking during night shift working hours as opposed to day or evening shift working hours, where dietary intake involved a greater prevalence of home-cooked meals.

Based on the data provided by participants, this research study concludes that working hours of law enforcement officers has a significant and self-reported impact on exercise and dietary habits in active-duty law enforcement officers. Barriers exist to officers participating in regular exercise across all shifts but were most impacted during overnight working hours. Dietary habits of officers changed between working shifts including greater reporting of restaurants, eating out and snacking during night shift working hours as opposed to the day or evening shift working hours, where dietary intake involved a greater prevalence of home-cooked meals. The provided data supports officer awareness of healthy vs unhealthy eating habits taking place. The greatest prevalence of unhealthy shift hours reported was overnight shifts.

Future research in this area should include specific activity tracking to determine the level of occupational activity and how much additional exercise may be needed for health benefits. Additionally, a formal record of participant exercise should be collected and examined for measurement purposes. In addition, future investigation should include detailed nutritional logs to evaluate true nutrient sources and caloric intake to determine if work circumstance impact dietary intake.

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