A Pilot Analysis of the Effects of Custody Shift Length on the Health and Fitness Characteristics of Deputy Sheriffs
Pakdamanian, Kayvon; Pakdamanian, Kamran; Moreno, Matthew R.; Dulla, Joseph; Dawes, Jay J.; Orr, Rob Marc; Lockie, Robert G.

Published: 01/10/2018

Document Version:
Peer reviewed version

Link to publication in Bond University research repository.

Recommended citation (APA):

General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

For more information, or if you believe that this document breaches copyright, please contact the Bond University research repository coordinator.
A Pilot Analysis of the Effects of Custody Shift Length on the Health and Fitness Characteristics of Deputy Sheriffs

Kavyn Pakdamanian1 • Kamran Pakdamanian1 • Matthew R. Moreno1 • Joseph M. Dulla2 • J. Jay Dawes2 • Robin M. Orr2 • Robert G. Locke1

1Department of Kinesiology, California State University, Fullerton, Fullerton, CA, USA. 2Department of Health Sciences, University of Colorado-Colorado Springs, Colorado Springs, CO, USA.

1Recruiting Train Unit, Training Bureau, Los Angeles County Sheriff’s Department, Los Angeles, CA, USA.

2Tactical Research Unit, Bond University, Robina, Qld, Australia.

ABSTRACT

METHODS

RESULTS

Within law enforcement agencies deputy sheriffs are primarily responsible for maintaining order and protecting a community by enforcing laws. Deputy sheriffs may work in custody facilities, where the primary job tasks are immediate supervision and if necessary, restraint. Following custody, deputy sheriffs may be assigned to patrol, where unit tasks include the prevention of illegal activities, emergency response, and ensuring the safety of citizens. Depending on the position, shift hours can range from 8-16 hours for longer working shifts, or at most 7 hours in a single day for deputies who are primarily engaged in investigative activities. This extended working time can often be accompanied by less family and more recreational time. However, long shifts may contribute to greater fatigue and insufficient sleep. The purpose of this study was to provide a pilot analysis as to the potential impact shift length could have on the health and fitness of deputy sheriffs who are primarily engaged in custody-related activities. A retrospective analysis was conducted on 60 deputies who typically had custody shift lengths of 12 hours or less (32 males, 5 females), or shifts greater than 12 hours (15 males, 7 females). Health and fitness assessments included: resting heart rate (RHR); resting blood pressure; fat and lean body mass measured via bioelectrical impedance; waist and hip circumference; waist-to-hip ratio (WHR); grip strength; push-ups and sit-ups in 60 s; and recovery heart rate from a YAMA 3-min step test. To compare any differences between the two groups, univariate repeated measures ANOVA with sex as a covariate was utilized (p < 0.05). After evaluating the information was available that there were few differences between the groups. However, the RHR of deputies who worked shift longer than 12 hours had a significantly lower RHR (70.7 ± 9.4 bpm) in comparison to those deputies working 12 hours or less (74.1 ± 9.2 bpm). The groups also had significantly lower WHR (0.84 ± 0.07) than those working more than 12 hours (0.89 ± 0.06). Although this is a pilot analysis, working longer shifts had a more favorable RHR and WHR; these longer shifts could have allowed for more time off and the opportunity to make better lifestyle choices. Nonetheless, no other health or fitness characteristics differed between the groups. More investigation is required as to the impact shift length can have on deputy sheriffs, and strategies to ameliorate any negative effects.

Within law enforcement agencies deputy sheriffs are primarily responsible for maintaining order and protecting a community by enforcing laws. Prior to working patrol, deputy sheriffs may work in custody facilities, where the primary job tasks are immediate supervision and if necessary, restraint.

• Longer work shifts may increase fatigue, decrease alertness, and result in more of a burnout while the officers are performing their daily duties (1, 3). The combination of these factors could potentially impact not only daily workplace tasks/duties, but the overall quality of life of our law enforcement officers.

• However, longer shifts may allow officers to have more days off so they can devote more time to their family. Many officers work shifts in order to ensure that they can have enough time off to spend with their family and friends.

• The purpose of this study was to provide a pilot analysis as to the potential impact shift length could have on the health and fitness of deputy sheriffs who have been working in custody.

• There were few differences between the groups (Table 1). However, the RHR of deputies who worked shift longer hours than 12 hours had a significantly lower RHR in comparison to those deputies working 12 hours or less.

• Deputies working more than 12 hours also had a significantly lower WHR than those working more than 12 hours. Conclusion:

• Deputies working longer shifts had a more favorable RHR and WHR. A potential reasoning for this is that the officers engaging in longer shifts are allowed for more time off and the opportunity to make better lifestyle choices, which has been suggested by previous research (2).

• Nonetheless, no other health or fitness characteristics differed between the groups. Since definitive conclusions cannot be made with this pilot data, more investigation is required as to the impacts shift length can have on deputy sheriffs and strategies to ameliorate any negative effects.

REFERENCES


7. Pakdamanian, K., Pakdamanian, K., Moreno, M., Dulla, J., Dawes, J., Orr, R., & Locke, R. (2018). A Pilot Analysis of the Effects of Custody Shift Length on the Health and Fitness Characteristics of Deputy Sheriffs. Table 1: Characteristics of deputy sheriffs who self-reported mean shift lengths of 12 hours or >12 hours.:

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Height (cm)</th>
<th>Body Mass Index (BMI)</th>
<th>RHR (bpm)</th>
<th>Systolic BP (mmHg)</th>
<th>Diastolic BP (mmHg)</th>
<th>Fat Mass (kg)</th>
<th>Lean Body Mass (kg)</th>
<th>Waist Circum. (cm)</th>
<th>Hip Circum. (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.75 ± 6.09</td>
<td>173.27 ± 7.99</td>
<td>28.15 ± 5.26</td>
<td>94.03 ± 12.36</td>
<td>134.24 ± 16.58</td>
<td>88.45 ± 9.60</td>
<td>18.61 ± 15.45</td>
<td>33.11 ± 6.20</td>
<td>94.81 ± 11.15</td>
<td>106.34 ± 6.75</td>
</tr>
<tr>
<td>32.63 ± 6.79</td>
<td>170.81 ± 8.88</td>
<td>29.10 ± 6.66</td>
<td>80.75 ± 9.47</td>
<td>127.32 ± 14.56</td>
<td>83.14 ± 10.64</td>
<td>21.52 ± 16.66</td>
<td>34.10 ± 5.13</td>
<td>97.09 ± 10.66</td>
<td>134.24 ± 15.79</td>
</tr>
</tbody>
</table>

* Significant (p < 0.05) differences between the two groups.