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## Final Summary Overview

### Law Enforcement Officers Safety and Wellness: A Multi-Level Study

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## BACKGROUND

Pillar six of the 2015 *President's Task Force on 21st Century Policing* recommended for the USDOJ to “enhance and further promote its multi-faceted officer safety and wellness initiative.”<sup>1</sup> At that point, there were clear theoretical and methodological limitations to officer safety and wellness (OSAW) research. Other than national statistics about deaths, assaults, and traffic injuries,<sup>2-11</sup> for the most part OSAW studies have relied on generally small local or state samples,<sup>12,13</sup> and fail to examine multi-level interactions of personal, professional, or agency factors to inform improved policies and practices. While there is growing attention to key stressors law enforcement officers (LEOs) experience,<sup>14-20</sup> as well as interventions to mitigate these risk factors (e.g., training in coping strategies),<sup>21-24</sup> law enforcement research has tended to investigate risk factors and wellness outcomes in silos, with limited contextual measurement of individual resilience and trauma. Further attention to both agency support and individual factors to build resiliency among LEOs is necessary.<sup>25</sup> Intervention efforts have tended to target singular outcomes, whereas we know from public health research that the linkages between multiple disorders (e.g., suicidality, anger, depression, substance use) are extensive.<sup>26,27</sup>

Compared to other professionals, officers work under stressful conditions and are regularly exposed to the risk of accidents,<sup>28,29</sup> physical attacks,<sup>30</sup> or other trauma.<sup>31,32</sup> To varying degrees, LEOs are exposed to stressors such as radiation, chemical, biological and physical risks<sup>33-59</sup>; and shift work, sleep disorders and other negative health sequelae.<sup>60-76</sup> Not all LEOs are able to cope with trauma (although training can help<sup>77,78</sup>), with unresolved stress leading to chronic distress<sup>72,79,80</sup> and/or alcohol use as a coping strategy.<sup>81-87</sup> In addition to the range of potential triggers for low resilience in critical incidents (e.g., prior trauma, officer fatigue, resistance to LEA policies, etc.),<sup>88,89</sup> LEOs also report that feelings of isolation and lack of support by their agency following a critical incident has led to traumatic stress symptoms, such as clinical depression, post-traumatic stress disorder, and suicidal ideation.<sup>19,85</sup> Moreover, at the community level, LEOs often contend with negative stereotypes due to media stories of police actions, misconduct or corruption.<sup>90-93</sup> Further, stress levels may be higher due to relative differences between the majority race/ethnicity of the community and that of the officers, per the “identification” hypothesis.<sup>94</sup> In

law enforcement, it has been found that fatigue impacts decision making and interferes with officers' ability to assess the risks of situations,<sup>11,89,95</sup> stress has impacts on cognitive performance,<sup>96</sup> and misunderstandings can erode positive agency-community relationships.<sup>24,97</sup>

The current study responds to evidence that LEOs (1) fare worse than the general population on many health and wellness outcomes; (2) that too often relevant LEO research has been conducted without a theoretical model to interpret the range and overlap of risk factors needed to develop sound prevention policies and programs; and (3) LEA policies and programs to address OSAW also are limited in scope/reach and largely untested in effectiveness. In response to these gaps, we launched a nationally representative two-stage study with a stratified representative sample of LEAs and a representative sample of LEOs from those agencies to document OSAW indicators within the environment of LEA policies and programs. The specific objectives of our Officer Safety and Wellness (OSAW) initiative were to: (1) Identify profiles of LEAs who are using best practices in addressing OSAW outcomes based on administrative/staffing factors, policies and programs; (2) Determine the extent to which specific occupational, organizational, and personal stressors distinguish OSAW outcomes; (3) Identify whether modifiable factors such as coping, social support, and healthy lifestyles moderate the relationship between stressors and OSAW outcomes; and (4) Investigate which LEA policies/programs have the potential to moderate OSAW outcomes.

## **METHODS**

### **The OSAW Sample**

The sampling frame for the Officer Safety and Wellness (OSAW) Initiative was the 2017 National Database on Law Enforcement Agencies (NDLEA).<sup>98</sup> In the first stage of sample selection, we cleaned the LEA sample frame. As sworn officer count is a critical variable in the sample selection process, we imputed this variable where missing. For Bureau of Indian Affairs (BIA) agencies, we imputed the missing sworn officer count as the median of the nationwide sworn officer to population served ratio. For all other agencies, we used the median sworn officer to population served ratio for the particular region and agency type. Any agencies without LEO duties or with a sworn officer count of zero were eliminated

from the frame. All state agencies in the frame were set aside for certainty inclusion in the main sample. After removing the state agencies from the frame, the next 75 largest agencies (using sworn officer count as a size proxy) were included in the main sample with certainty. All remaining agencies were sorted by census region, LEA type, and number of sworn officers, and the remainder of the sample was selected using systematic sample selection. Reserve sample was set aside, again using systematic sample selection following a sort by census region, LEA type, and number of sworn officers. We then flagged LEAs to be selected for rostering. The agencies selected for rostering were sampled systematically using a sort of census region, LEA type, and number of sworn officers. Reserve sample was also flagged for any necessary roster replacements. During the field period, in an effort to increase the number of LEAs represented in the OSAW project the research team decided in April 2018 to incorporate an additional 500 LEAs into the original sample.

As rostered agencies responded to the LEA survey, we implemented a system to sample officers from the roster. Once a roster is received, we divided the roster into males and females (as specified by LEA). We designed the officer selection process to sample officers from responding agencies according to the distribution in the table to the right. The officer selection program is set up to select the appropriate number of officers from each roster to achieve the desired officer sample size, while also oversampling females at a rate of 2:1. The Agency-level sample description is provided in Appendix Table 1 and the Officer-level sample description is provided in Appendix Table 2.

# Sworn LEOs	LEO Sample Size
1	1
2-5	2
6-9	6
10-25	8
26-50	15
51-99	20
100-250	35
251-499	60
500-999	80
1000 Plus	100

The final sample of LEAs included n=1,135 agencies (57.7% response rate), from whom a final sample of n=2,867 LEOs (35.6% response rate) were successfully recruited to complete surveys.

### **Developing the OSAW Instruments**

Both the LEA and the LEO instruments drew on existing measures as cited below, reviewed in consultation with the OSAW Expert Panel members through an iterative process (multiple conference calls and shared documents) attentive to theory and practice, aiming to balance comprehensive coverage

with brevity of scales where possible. With consensus on the instruments, NORC IRB approval was attained for the pilot testing phase, prior to national survey distribution, in which the research team conducted cognitive interviews with an initial group of individuals to assess the quality of the LEA and LEO survey instruments. Tables 1 and 2 below display LEAs that participated in the LEA (n = 9) and LEO (n = 12) cognitive interview, respectively.

Our team used PERF's membership to select a convenience sample of LEAs to participate in cognitive interviews. The chief executive from selected LEAs was the initial point of contact to determine interest and willingness to participate in the cognitive interview process. In all cases, agency executives from participating LEAs asked a member of their command staff, or other personnel involved in OSAW matters, to complete the cognitive interview. Prior to the LEA cognitive interviews, the research team sent an initial draft of the LEA survey instrument to each agency representative and instructed them to carefully review the instrument. Participants were asked to focus on the questions (i.e., wording, response options), content, and general structure of the survey instrument and make detailed notes about any changes they would recommend. The research team then conducted a one-hour cognitive interview by telephone with each agency representative to discuss their feedback about the survey instrument. Through these contacts, the research team identified LEOs who might be interested in reviewing the LEO survey and contacted these LEOs directly to request their participation in a cognitive interview following a similar process outlined above for LEA participants. In addition, LEO participants were provided a list of OSAW resources and a consent form to review and were asked to provide verbal consent prior to completing the cognitive interview by telephone.

### **OSAW Measures**

Agency Instrument. The OSAW LEA instrument includes descriptive measures of the agency membership (full-time sworn personnel), shifts assigned,<sup>99</sup> community relations, agency health and wellness policies and programs.<sup>100</sup> The research team drew on prior agency level surveys,<sup>101</sup> as well as the

published literature. Agency policies addressed safety equipment, pursuit policies, alert system designs<sup>102</sup> as well as what peer support, conflict resolution and psychological services are available to LEOs.<sup>103</sup>

Officer Instrument. The baseline LEO instrument includes measures of personal demographics and law enforcement duty assignments.<sup>104</sup> Recognizing that individual experiences prior to entering any occupational field are relevant to personal profiles, we measured LEOs' adverse childhood experiences.<sup>105</sup> Further, the instrument includes measures of health care use<sup>106</sup> and work/lifestyle such as fruit and vegetable consumption<sup>107</sup> and physical activity and sedentary behavior.<sup>108</sup>

As risk factors for poor health and safety outcomes, law enforcement research has examined both occupational and organizational stressors. We assessed the former based on Weiss et al.'s critical incident history scale,<sup>109</sup> with modifications and additional items drawn from Expert Panel discussion. An additional occupational risk measured on the baseline instrument was air quality, blood-borne pathogens and transdermal exposures.<sup>110</sup> In terms of safety, LEOs were asked about their use of equipment (body armor, seat belts, reflective vests),<sup>111</sup> as well as personal involvement in traffic accidents (incidence, related injuries, and related seat belt use). Further, as measures of potentially unskillful coping strategies, we included behavioral outcomes assessing substance use alcohol use,<sup>112,113</sup> and gambling behavior.<sup>114</sup>

As potential protective factors for the impact of stress on health, we fielded the Duke Social Support Index,<sup>115,116</sup> officers' capacity to manage stress via the distress tolerance Scale,<sup>117</sup> their ability to manage their emotional response to stressful situations, whether in the moment or the aftermath, through the Emotion Regulation Skills Questionnaire (ERSQ),<sup>118,119</sup> and their toolbox of managing stress via the Coping Inventory for Stressful Situations.<sup>120</sup>

Physical health measures included in the LEO survey assessed general health, diagnoses and/or medication for hypertension, high cholesterol, diabetes, and gastrointestinal disorders,<sup>121,122</sup> as well as more detailed health descriptors from the Patient Health Questionnaire.<sup>123</sup> We assessed fatigue with the Vital Exhaustion scale,<sup>124</sup> and sleep disorders with the Pittsburgh Sleep Quality Index.<sup>125</sup> From the

Deployment Risk and Resilience Inventory (DRRI),<sup>126</sup> we also assessed neurocognitive assets, including attention, memory, and executive functioning, which can be impaired for individuals with trauma.

Mental health measures included the Perceived Stress Scale,<sup>127</sup> the two-item screener for depression from the Patient Health Questionnaire (PHQ2),<sup>128</sup> the 5-item anxiety and depression screener (the Mental Health Index) from the Short Form Health Survey-36,<sup>129</sup> the Primary Care- PTSD Scale as a screener for post-traumatic stress,<sup>130</sup> and the Suicidal Behaviors Questionnaire-Revised.<sup>131</sup>

Finally, LEOs were also asked about their agency's wellness programs, either offered in-house or through a partnership with another source covering: physical fitness; general stress management, emotional regulation skills, and/or proactive wellness / resilience programming; coping skills to manage trauma; psychological and mental health care treatment; nutrition and dietary topics; and alcohol and chemical dependency programming.

### **National Data Collection**

The research team began by fielding the survey to a group of 140 pilot LEAs in September 2017. The purpose of the pilot phase was to assess data quality and make any necessary amendments to the survey instrument or distribution procedures prior to engaging the full LEA sample. Subsequently, the LEA survey and roster requests were distributed to the full LEA sample in October 2017. Contacts to the sampled LEAs began with a mailed invitation letter and hardcopy survey, followed by on average 9.6 emails (3.5 for completers; 11.9 for non-respondents), one mailed reminder letters (with hardcopy surveys to the largest non-responding LEAs), a faxed letter, and follow-up phone calls (on average three calls to non-responding pilot LEA; as these were largely ineffective, they were discontinued for the full sample) throughout the field period. The final attempt to contact remaining LEAs – the “last chance” contact in January 2019 was sent as a letter to LEAs without an email address on file or as an emailed reminder letter for LEAs with an email address on file.

### **Data Analysis**

Analyses were conducted in Mplus 7.4, Stata 15 and R, which allows for the use of sampling weights, adjusts for complex sampling, and handles missing data. Post-stratification weights were applied to

ensure national representativeness. Weights were calculated with the probability of selection and adjusted for survey non-response. For each analytic sample we examined the distribution of the data with and without statistical weights and ran frequencies, measures of central tendency, and measures of dispersion with study variables. Bivariate associations and multi-collinearity were investigated with cross-tabulations, comparison of means, and correlation matrices. To address specific research questions, multivariate analytic models were selected.

## **FINDINGS**

Due to the extended field period, the findings reported here are preliminary. Agency-level outcomes are under review<sup>132</sup> and multiple officer-level analyses and manuscripts are under preparation. Further detail is available from the investigators.

LEA agency programming. Taylor et al.<sup>132</sup> assess with latent class analysis whether there are distinct profiles of agencies with similar patterns of wellness programming and explore other agency characteristics describing these programming profiles. We assessed whether each of the following programming types were offered within the agency or through an external partnership: (1) physical fitness; (2) general stress management/emotional regulation skills, and/or proactive wellness/resilience programming; (3) coping skills to manage trauma; (4) programming or services related to nutrition and dietary topics; (5) psychological and mental health care treatment; (6) alcohol and drug dependency treatment for their sworn officers. Results of the profile analysis suggest that, nationally, almost two-thirds of agencies offer none of these wellness supports, a quarter of agencies offer a broad range of wellness programs and the rest offer different sets of wellness programs specialized. Geographic region, budget, size, and type of agency are among the strongest factors that are associated with the profiles.

Shiftwork. We have conducted preliminary descriptive analyses of shiftwork as reported by the LEOs. One-third (33.6%) of LEOs have never worked a rotating shift, 46.9% have worked a rotating shift in the past but are not currently, and 19.5% reported currently working a rotating shift assignment. Among responding officers who currently were working a rotating shift, 86.4% work a forward rotating shift whereas 13.5% rotate a backwards rotating shift. We also measured officers' extent (in years) of ever

working a rotating shift. With the limitation that these univariate data are biased by time on force, the data indicate that more than one in four officers have worked a rotating shift for at least eleven years: <1 year (11.5%), 1-5 years (36.7%), 6-10 years (24.6%), or 11+ years (27.2%). Subsequent analyses are planned to answer two research questions: (1) What are the health implications of current rotating shift; and (2) Are rotating shift assignments distributed equably, in terms of officer sociodemographics?

LEO wellness profiles. Applying latent class analyses, we have estimated profiles of officer wellness, including physical health, perceived stress, performance (including executive functioning, attention/concentration, and memory assessments), behavioral health (alcohol and prescription drug misuse, smoking status), and mental health (PTS, depression, and suicidality). This person-centered methodological approach allows us to understand individual profiles in terms of several outcomes at the same time. The preliminary results suggest that two-thirds of officers may be classified in a healthy profile; only a small proportion of officers (about one in 20) face significant risks and health deficits, whereas one in four officers exhibits moderate risks, with particular concerns regarding substance use. Several sociodemographic, professional, and personal characteristics are associated with these profiles, e.g., female officers were nearly three times as likely and those who were currently working a rotating shift were twice as likely to be in the high risk wellness profile.

Physical Health Profiles. Under the OSAW initiative, we also asked officers to self-report whether a physician or other provider had ever diagnosed them with hypertension (29.9%), high cholesterol (28.3%), diabetes (5.1%), gastrointestinal illness (21.0%), or sleep apnea (12.9%). Bivariate analyses confirmed significant correlations between these conditions. In addition to being able to compare the prevalence of these five specific conditions to general population estimates, we will also examine these latent classes in terms of sociodemographics (race/ethnicity, gender, rank, age, educational attainment); self-rated physical health and health care check-ups within the past two years, depression, BMI, substance use; and professional factors (weekly hours worked, rotation shift assignment, having a second job).

Trauma, Military Experience and Combat Tours. Recognizing that many agencies recruit veterans to the force, we conducted focal analyses on the potential role of trauma histories as associated with

officers' suicidality, PTS, and sleep disorders. Three out of four officers in the U.S. report no military experience, 13.5% were in the military but served no combat tours, and 11.4% served at least one combat tour. Preliminary analyses investigating whether military and combat experience on their own, or indirectly serve as a modifier of past trauma arising from adverse childhood experiences, suggest null effects. In other words, those with military experience and specifically combat tours fare no worse on three outcome measures, regardless of childhood adversity.

*Sexual Harassment and Assault of Police Officers.* Recognizing that sexual misconduct is a problem across many industries, we assessed the prevalence of *sexual harassment* and *assault* in the respondent's "professional career as a police officer." Bivariate analyses are consistent with our *a priori* hypothesis that female officers would report greater exposure to both outcomes during their professional career. The rate of sexual harassment reported by females was 1.7 times the risk of males, and the rate of sexual assault reported by females was 3.8 times the risk of males. Preliminary gender-stratified models indicate greater risk of sexual assault for mid-level or veteran female officers female officers (perhaps reflecting greater exposure over time on the job) compared to new or fairly new officers. African-American and Hispanic male officers were more likely to be sexually assaulted than White male officers; analyses also revealed a significant association between higher perceived stress and sexually assault victimization.

## **Implications**

National Institute of Justice (NIJ) funding for the Officer Safety and Wellness (OSAW) initiative has generated two nationally representative datasets available for further analyses. These data support the investigation of the interplay of administrative policies and individual outcomes to understand the more successful administrative approaches to protecting LEOs' well-being. OSAW was also designed to document the well-being of LEOs with reference to other population samples. This study provides LEA administrators as well as municipal and state policymakers reliable information about the extent to which their workforce manages health deficits. At a time when recruiting and maintaining a fully staffed force is particularly challenging, attention to LEO wellness is essential to retain a health workforce and to facilitate successful recruitment campaign.

Several limitations should be considered in interpreting these findings. First, both the LEA and the LEO data are self-reported and are thus subject to respondent recall and other biases. However, gathering agency data from one or more representatives contacted to participate is an accepted practice in law enforcement research, as used by the Bureau of Justice Statistics in the Law Enforcement Management and Administrative Statistics (LEMAS) survey.<sup>133</sup> Second, while our LEA participation rate was as high as nearly 60%, the LEO participation rate is lower (although our close to 40% LEO participation rate exceeds many established nationally representative general population panels<sup>134</sup> as well as the convenience sample wellness research conducted by the Fraternal Order of Police with current and retired officers, with a response rate less than 3%.<sup>135</sup>) Our rigorous sampling strategy mitigates this problem because all analyses can be weighted to be nationally representative. While we can adjust for observed response bias through weighing (e.g., gender and race), we cannot exclude the possibility that there is unobserved response bias (e.g., if the healthier LEOs were more likely to participate in the LEO survey). Third, due to the expansive investigation of officer safety and wellness, we made every effort to use the shortest validated scales for measurement of risk factors and outcomes. Thus, our instrumentation does not investigate each construct in as great detail as would be possible in a smaller scale study. Fourth, as a large-scale national self-administered survey, the design prohibited collection of contextual details describing critical incident exposure, past treatments, and other contextual factors likely related to safety and wellness outcomes; more detailed investigation of contextual factors is a goal for further research.

In conclusion, our preliminary results refer to patterns of agency wellness programming; officer physical, mental and behavioral health; and personal and professional risk and protective factors. Importantly, this type of analyses is not intended nor is it possible to use to identify particularly progressive or underperforming agencies. Nor can our results be used to determine individual officers' fitness for duty (all respondent data is confidential and analyzed without any personally identifying information in the dataset). Rather, we expect these results to be informative for agency leadership as they review their membership needs for support overall, and for individual officers to consider their own status with respect to the OSAW findings.

## Appendix

Table A1. Law Enforcement Agencies – Weighted Descriptive Characteristics

<b>N=1,135</b>	<b>% / mean (S.D.)</b>	<b>n Missing<sup>a</sup></b>
<b>Agency size</b>	49.8 (393.4)	0
<b>Agency type</b>		0
<b>Municipal</b>	78.9%	
<b>County</b>	19.7%	
<b>Other</b>	1.5%	
<b>Geographic Region</b>		0
<b>South</b>	20.8%	
<b>Southeast</b>	18.2%	
<b>Northeast</b>	18.4%	
<b>Midwest</b>	25.8%	
<b>West</b>	16.7%	
<b>Racial composition</b>		
<b>White</b>	87.5%	138
<b>Black</b>	6.2%	332
<b>Hispanic</b>	6.7%	348
<b>Other</b>	5.0%	363
<b>Gender composition</b>		56
<b>Male</b>	89.7%	
<b>Female</b>	9.3%	
<b>Budget per officer (USD)</b>	\$607,375 (\$8,187,026)	133
<b>Budget restrictions leading to programs cut (in the past year)</b>	28.4%	70

<sup>a</sup>Missing refers to the count of LEAs that did not provide detailed responses on the specific measure.

**Table A2. Law Enforcement Officers – Weighted Descriptive Characteristics**

<b>N=2,867</b>	<b>% / mean (S.D.)</b>	<b>n Missing</b>
<b>Race</b>		26
White	78.0%	
Black	7.3%	
Hispanic	9.2%	
Other	5.6%	
<b>Gender</b>		22
Male	87.0%	
Female	13.0%	
<b>Age</b>	41.44 (9.6)	29
<b>Years sworn</b>		17
0-5	19.0%	
6-10	14.1%	
11-15	16.1%	
16-20	19.5%	
21+	31.4%	
<b>Education</b>		12
High school	6.8%	
GED or equivalent	0.7%	
Some college, no degree	25.6%	
Associate’s degree	19.7%	
Bachelor’s degree	36.6%	
Master’s degree	9.8%	
Professional school	0.5%	
Doctoral	0.2%	
<b>Rotation status</b>		52
Never	33.6%	
Yes, but not currently	46.9%	
Yes, currently	19.5%	
<b>Duty assignment</b>		10
Officer/Deputy/Trooper	47.8%	
Corporal	5.2%	
Sergeant	17.1%	
Lieutenant or above	13.2%	
Investigator/Detective	11.0%	
Other	5.8%	
<b>Sector</b>		38
Only urban	40.6%	
Only suburban	21.9%	
Only rural	16.2%	
Mix of urban and suburban	6.2%	
Mix of urban, suburban, and rural	7.6%	
Other	7.5%	
<b>Second job outside of agency</b>		94
No	61.7%	
Yes	38.2%	
<b>Hours worked per week in your dept.</b>	44.8 (8.3)	36

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