Final Summary Overview

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

December 22, 2023

Report submitted to the National Institute of Justice
Grant # 2018-R2-CX-0026

Elizabeth A. Mumford, Ph.D., NORC at the University of Chicago
Bruce G. Taylor, Ph.D., NORC at the University of Chicago
Weiwei Liu, Ph.D., NORC at the University of Chicago
Jeremy Barnum, Police Executive Research Forum

ACKNOWLEDGEMENTS: Points of views in this document are those of the authors and do not necessarily represent the official position or policies of the U.S. Department of Justice or any other organization. This study was funded by the National Institute of Justice (Grant #2018-R2-CX-0026) and we are grateful for this funding that allowed for analyses of data from the first wave of OSAW (Grant # 2016-IJ-CX-0021). We thank our NIJ Project Officer Eric Martin and Senior Grants Management Specialist Cathy Girouard for their support. We would like to express our sincere gratitude to the agencies and dedicated officers who participated in this research. Further thanks are due to the members of our Expert Panel who collaborated in the design and review of the survey instrument: Timothy Baysinger, Sarah Creighton, Robert Freeland, Stephen James, Tara Kelley-Baker, Ashby Plant, Sandra Ramey, Elizabeth Stanley, Darrel Stephens, Bryan Vila, and John Violanti. Additional thanks to Dan Blumberg, Aidan Combs, and Michelle Dougherty who supported the analyses and dissemination of OSAW results. Dr. Rollin McCraty, HeartMath Institute Research Director, and Jackie Waterman, HeartMath Institute Researcher, generously guided the research team to develop heart rate variability data collection protocols. We would also like to thank PERF staff Meagan Cahill, Nathan Ballard and Adam Kemerer and NORC staff Meghan O'Leary, Caroline Lancaster, Poulami Maitra, Ji Eun Park, Madeleine Liotta, Jackie Sheridan-Johnson, Amanda O'Keefe, Alejandra Kaplan, Katie Archambeau, Julie Banks, and Steven Pedlow.

Conflict of Interest: The authors have no conflicts of interest to disclose.

Financial Disclosure: The authors have no financial relationships relevant to this study to disclose.

** **Address correspondence to:** Elizabeth A. Mumford, Ph.D., Senior Fellow, NORC at the University of Chicago, 4350 East West Highway, Ste. 800, Bethesda, MD 20814, mumford-elizabeth@norc.org

This project was supported by Award Number 2018-R2-CX-0026, awarded by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. The opinions, findings, and conclusions or recommendations express in this publication are those of the authors and do not necessarily reflect those of the Department of Justice.

BACKGROUND

The Officer Safety and Wellness (OSAW) Initiative, created in 2017, aims to assess the myriad of safety and health concerns of law enforcement officers (LEOs) in the United States. Building on the original study (OSAW-A; 2016-IJ-CX-0021), in 2018 the research team launched OSAW-B (2018-R2-CX-0026) to build on the first wave of data, and to conduct a longitudinal national survey of LEOs and correctional officers (COs), to examine the state of officer safety and wellness, job satisfaction, and job performance. The overarching goal was to support researchers, agency leaders, and policymakers as they address the risk factors for LEO and CO wellness and safety.

Law enforcement is a high-stress occupation, with challenges arising from job-related stressors and organizational/administrative stressors, as well as a perceived lack of support from community members, particularly heightened after the murder of George Floyd in 2020 by the Minneapolis Police (Mumford et al., 2022; Regehr et al., 2019; Syed et al., 2020; Velazquez & Hernandez, 2019). This stress can accumulate in the body and is associated with declines in officer mental and physical health (Juster et al., 2010; McEwen & Stellar, 1993). LEOs are twice as likely to develop cardiovascular disease as other professions (Anderson et al., 2002; Franke et al., 1998), the rate of officer suicidality (particularly among female officers) is of grave concern (Mumford, Liu, & Taylor, 2021; Violanti & Steege, 2020), and the occupational fatality rate is nearly three times the U.S. average (Maguire et al., 2002). Left un-addressed, continued exposure to high stress may have negative effects on officers' morale, job satisfaction and performance, and may lead to increased turnover (Mourtgos et al., 2022)

The specific objectives of this phase of OSAW research were to [1] Identify the range of beliefs about the prestige of LEO/CO work and officer job satisfaction, as well as the longitudinal patterns of officer stress and resilience among officers (building on OSAW-A measurement of stressors, safety and health, and the extent to which these estimates vary by gender and by officer assignment); [2] Investigate how officer job satisfaction and perceptions of occupational prestige affect their stress, resilience, and job performance, and the extent to which this relationship varies by gender and officer duty assignment; and

[3] Identify whether job satisfaction impacts officers' coping skills and resilience, and whether coping skills and resilience moderate the association between stressors, stress outcomes, and job performance.

METHODS

The OSAW Sample

The sampling frame for the OSAW initiative was the 2017 National Database on Law Enforcement Agencies (NDLEA). For details on how agencies and officers were selected to participate in the original OSAW sample (Wave 1), please see the OSAW-A Final Report.

All officers eligible to participate in Wave 1 of the Officer Safety and Wellness Initiative (OSAW) survey were re-invited to participate in Wave 2. LEOs were excluded from the Wave 2 sample if they were screened out at Wave 1, not able to be contacted at Wave 1, or were from one of two agencies that submitted anonymized rosters with no LEO contact information at Wave 1. A total of 9,256 LEOs were invited to participate at Wave 2.

Correctional Officers were newly eligible to participate in the OSAW initiative at Wave 2. To select COs for the sample, the research team began by contacting sampled county LEAs at Wave 1 to request a roster of their correctional personnel from which to select a sample. To increase the number of COs represented in the OSAW initiative, the research team decided to include an additional 500 county LEAs to include in their roster eligible group. After removing ineligible agencies, rosters were requested from a total of 810 eligible county LEAs. The research team followed the same protocol in requesting rosters as in Wave 1 (Mumford et al., 2020).

Although longitudinal cohort studies usually are only fielded to baseline participants in subsequent waves, because the OSAW baseline sample was going to be enhanced through the recruitment of COs (new to the study), the research team reinvited all eligible LEOs who were initially invited to participate in the Wave 1 survey, regardless of baseline participation.

All LEO and CO officers who completed a survey at Wave 2 were invited to complete the survey at Wave 3. A total of 1,879 officers were invited to Wave 3, as 44 COs that completed a Wave 2 survey were unable to be invited to complete Wave 3, as their agency requested that officer emails not be

distributed to the research team, and instead used alias email addresses that removed any officer identifiers. The research team was unable to re-establish contact with this agency at Wave 3 to receive permission to re-field the survey, and thus the officers were removed from the sample.

Developing the OSAW Instruments

The core of the officer-level OSAW instrument was developed for Wave 1 of the survey (Mumford et al., 2020) drawing on existing measures and reviewed in collaboration with the OSAW Expert Panel. In reflection of Wave 1 results and the current research aims to study occupational prestige and officers' job satisfaction, the research team conducted a pilot study in 2019 with three agencies (two law enforcement agencies and one county correctional agency within a sheriff's office), located in the Midwest and Mid-Atlantic areas.

Phase one of the pilot study involved a brief survey, fielded to 106 officers from the three agencies to inform and refine measurement in the subsequent waves of the national-level survey. The pilot study captured measures of job satisfaction, job performance, occupational prestige, occupational stress, community policing beliefs, and the Coping Inventory for Stressful Situations (CISS) (Cohan et al., 2006).

Phase two of the pilot study consisted of six focus groups (two at each of the three agencies, involving both line officers and command staff) to capture officers' views on their community's beliefs about the prestige of police and correctional work, officers' stress and subsequent coping skills to manage stress, and the impact of community beliefs coupled with media attention on officers performance and job satisfaction.

The research team updated the officer-level survey at Wave 2 based on findings from phases one and two of the pilot study, after which the PERF team conducted cognitive interviews with a small sample (n=9) of LEOs and COs to assess the quality, clarity, and length of the OSAW Initiative instrument. In response to the COVID-19 pandemic that occurred just after launching Wave 2, the

research team added two questions to the Wave 2 and Wave 3 surveys capturing COVID-19 metrics (B. G. Taylor et al., 2023).

Phase three of the pilot research – developing and testing heart rate variability (HRV) data collection protocols in a law enforcement setting – was postponed due to in-person protocols established just before the COVID-19 pandemic. However, in 2023, the research team re-engaged with the participating correctional agency to conduct phase three of the pilot activities. An expert in resilience training provided a brief overview of stress, resilience, and HRV for a group of COs, after which participating officers (with informed consent, one by one, in private rooms) followed researchers' guidance during two periods of HRV measurement. The first measurement consisted of a five-minute HRV reading (via earlobe pulse monitor) during which the officer was at rest, while the second measurement was a one-minute reading during which the officer controlled their breathing by following a rhythmic indicator on a screen.[1] After the HRV measurement, the officers participated in brief interviews with research staff to provide feedback on the protocols and their thoughts on feasibility of implementing the resilience techniques and HRV measurement in their daily lives.

OSAW Measures

The instrument collects measures of personal demographics and duty assignments, health care use, work/lifestyle factors (e.g., fruit and vegetable consumption, smoking) and physical activity and sedentary behavior.

We captured a variety of risk factors, including exposure to adverse childhood experiences (ACES) at baseline, and at Wave 2 for those officers that did not participate at Wave 1 (Blosnich et al., 2014). We also captured exposure to critical incidents using a modified version of Weiss et. al.'s (2010) scale, including questions on experiences of sexual harassment and assault by a fellow officer. Expanding to officer safety, the survey included questions on traffic accidents, their use of equipment (seat belts,

[1] Protocol development was informed by consultation with Dr. Rollin McCraty, HeartMath Institute Research Director, and Jackie Waterman, HeartMath Institute Researcher.

reflective vests, and body armor), as well as exposure to blood-borne pathogens. Officers were also asked about their use of alcohol and gambling behaviors (Bradley et al., 2007; Fagan et al., 2007; Neighbors et al., 2002).

We also measured protective factors and captured social support using the four-item short form measure of emotional support from the PROMIS (www.healthmeasures.net), their ability to manage stress using the Coping Inventory for Stressful Situations (CISS)(Cohan et al., 2006) and the Distress Tolerance Scale (DTS)(Simons & Gaher, 2005), and their ability to manage their emotions following a stressful situation using the Emotion Regulation Skills Questionnaire (ERSQ) (Berking & Znoj, 2008).

Physical health was captured using the Patient Health Questionnaire (PHQ-15)(Kroenke et al., 2010) as well as through questions about diagnoses of hypertension, high cholesterol, diabetes, and gastrointestinal disorders, as measured by the CDC's Behavioral Risk Factor Surveillance System (BRFSS) instrumentation. We assessed sleep disorders using the PROMIS sleep disturbance short form scale (www.healthmeasures.net), attention, memory, and executive functioning problems through the Deployment Risk and Resilience Inventory (DRRI) (King et al., 2006), and fatigue using the Vital Exhaustion scale (Appels & Schouten, 1991). Officers were also asked about the COVID-19 pandemic, including the availability of agency-provided masks, as well as vaccine hesitancy. These measures were developed in discussion with PERF and members of the Expert Panel.

We captured general stress using the Perceived Stress Scale (PSS)(Cohen et al., 1983), as well as occupational/administrative stress measured by a modified measure from the Operational Police Stress Questionnaire (PSQ-Op) (McCreary & Thompson, 2006) and piloted in this study. Other measures of officers' mental health included the PHQ-2 to screen for depression (Kroenke et al., 2003), the 5-item anxiety and depression screener MHI-5 from the Short Form Health Survey (SF-36) (Lara et al., 2002), suicidal ideation using the Suicidal Behaviors Questionnaire-Revised (Osman et al., 2001), post-traumatic stress captured by the primary care-PTSD scale (Prins et al., 2004), and resilience was captured using the RS-14 (Wagnild, 2011).

Officers were asked to report on their job satisfaction via a global item that asked, "All in all, you are satisfied with your job" with a 4-point response category.[2] Additionally, officers were asked about their personal assessment of their job performance in the past year, as well as how their supervisor had rated their job performance within the past year; both measures used the response scale of 1 (does not meet expectations for the position) to 5 (exceeds expectations for the position). Finally, officers responding to the national survey were asked about their perceptions of the occupational prestige of policing. One measure of occupational prestige was a global item – "How much prestige do you feel your occupation has?" – commonly used in other research, following (Corso, 2009). However, given theoretical concerns that the standard measure more closely captures socioeconomic status of a job (Freeland & Hoey, 2018), based on Affect Control Theory, we implemented a 3-level measure to assess occupational prestige on three dimensions: evaluation (E: good/bad), potency (P: powerful/weak), and activity (A: active/inactive) (Maloney, 2020). In additional to assessing officers' personal views regarding their jobs via the global and the EPA measures of prestige, we measured (via global and EPA items) how much prestige officers felt the general public thinks their occupation has.

Several items were generated in discussion with the OSAW Expert Panel. Officers were asked about their agency's wellness programs and their level of accessibility to officers. The wellness programs asked about included physical fitness, general stress management, emotional regulation/resilience programming, coping skills to manage trauma, mental health care treatment, nutrition and dietary topics, and alcohol and chemical dependency treatment. Officers were also asked about the culture surrounding health and wellness within their agency, including stigma around mental health, taking advantage of available resources, skipping physicals, and not taking care of their physical health.

[2] During phase two of the pilot activities, we fielded both the 12-item Measure of Job Satisfaction in the Public Service (J. Taylor & Westover, 2011) along with this single global item of job satisfaction. We found from pilot analyses that the global item performed comparably to the longer scale. To minimize respondent burden from the much longer national OSAW survey, we opted to field the global item of job satisfaction.

National Data Collection

The research team fielded the Wave 2 survey from January 2020 through January 2021. Officers received an invitation email, followed by regular follow-up email reminders including a description of the project, contact information for the principal investigators, and instructions on how to complete the survey. Between email invitations and reminders, the research team contacted the 9,256 officers 25 times on average. The sample initially included 9,256 total LEOs and COs, however after removing officers who screened out or had email bounce backs, there were a total of 8,308 active cases. Of those, we received a total of 1,924 completed responses, for a Wave 2 response rate of 23.16%. Of the 1,924 cases at Wave 2, 1,078 had completed a survey at Wave 1, resulting in a 53.61% retention rate from Wave 1 to Wave 2.

The research team aimed for approximately one year in between Wave 2 survey submission and Wave 3 survey initiation, grouping officers into three tranches. Officers who completed a survey at Wave 2 were eligible and invited to complete a survey at Wave 3. Surveys were fielded between February 2021 and March 2022. Over the 14-month data collection period, the research team distributed a total of 24,471 email invitations and reminders to the Wave 3 sample of LEOs and COs.

The team implemented a novel recruitment strategy at Wave 3, obtaining quotes in support of the OSAW Initiative from leaders at agencies with officers in the OSAW sample and using these quotations in recruitment emails. The research team contacted several agencies, provided example quotes for Chiefs or Sheriffs to endorse, and then these endorsement statements were added to emails. Two examples (names of speakers masked here but included in recruitment) include:

> *"The Officer Safety and Wellness (OSAW) Initiative survey gives researchers the data needed to determine which strategies work best and should be implemented to protect officers. The survey is completely confidential so officers can participate without being identified, even to others in their own agency. I encourage you to participate in this important study."*
> -Chief, Large Law Enforcement Agency

> *"The value of this project cannot be overstated. Gaining insights about officer wellness directly from the officers is of the utmost importance. In these trying times, when yearly death by suicide*

> *is higher than death by assault against officers, we need access to the truth so we can support the health and wellbeing of our first responders through their entire careers."*
> -Lieutenant, Small Law Enforcement Agency

Excluding officers who refused, screened out of the survey, and had email bounce backs, there were 1,716 officers eligible for the Wave 3 survey. Of those, 1,000 officers completed Wave 3 for a retention rate of 58.28%. This final sample included 877 LEOs and 123 COs.

Survey Incentives

Given the challenge of obtaining a high response rate with longitudinal surveys, as well as in acknowledgement of the competing priorities for public safety personnel arising in 2020, the research team proposed the use of monetary incentives to encourage participation among LEOs and COs at Wave 3. The research team received approval from NIJ to use incentives in April 2021, authorizing a pilot experiment with incentives up to 320 LEOs and COs who participated in Wave 3. Monetary incentives were offered in the form of a $15 gift card for Amazon.com. Agencies were selected based on the number of non-responding officers and with the goal of achieving diversity in geographic region and agency type (i.e., municipal, county, sheriff). After receiving approval from the agencies to implement the experiment, officers selected for the incentive pilot that had already been invited to complete a Wave 3 survey were alerted to the new incentive, and those who had not yet been invited received updated invitation letters detailing the incentive. In total, there were 324 LEOs and COs selected for the incentive pilot experiment. Detailed analyses of the effects of using incentives to encourage survey participation in officers were presented at the 2023 American Society of Criminology and are being prepared for peer reviewed publication (Barnum et al., 2023).

Data Analysis

Data cleaning and recodes were conducted in SPSS. Analyses were conducted in Mplus, Stata, and R, which allow 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

We have compiled findings from the OSAW-B study covering a wide variety of officer safety and wellness topics including COVID-19 vaccine hesitancy, prestige, sexual harassment, and stress and resilience. Additional findings can be found in the OSAW-A final report (Mumford & Taylor, 2022), as well as in the OSAW-A studies published in peer-reviewed journals (Liu et al., 2023; Mumford, Liu, & Taylor, 2021; Mumford, Liu, Taylor, et al., 2021; Mumford, Maitra, Liu, et al., 2021; Stanley et al., 2021; B. G. Taylor, Liu, et al., 2022; B. G. Taylor, Maitra, et al., 2022), COPS Dispatch, and Police Chief Magazine. New results derived from the OSAW-B study are summarized below.

Occupational Prestige and Job Satisfaction – Mumford et al. (2022) highlights findings from the OSAW focus groups (run separately with line officers and senior staff) conducted with LEOs and COs from three different agencies. This research underscores the intersectionality of stressors not only related to organizational duties and high-risk occupational exposures, but also the stressors that arise from interpersonal interactions within agencies and with the community. However, officers also reported very positive interactions with the communities they serve, despite the reportedly negative public narrative and perceptions of information asymmetry (i.e., knowledge of evidence that has not yet been released to the public) between officers and the community. Further, officers reported great pride in their job performance but noted the need for resiliency and coping strategies to better handle occupational and administrative stressors, as well as the impact of job stress on their personal lives. Strategies for the recruitment and retention of public safety personnel can build on these positive facets of occupational prestige and job satisfaction.

COVID Vaccine Hesitancy – Taylor et al. (2023) found that 40% of officers surveyed between February 2021 to March 2022 were hesitant to take the COVID-19 vaccine. Officers with higher levels of education, older officers, those with more law enforcement experience, those who received more recent health check-ups, and commanders were less likely to be hesitant to receiving the COVID-19 vaccine. The analyses also looked at the availability of agency-provided masks and its relation to vaccine hesitancy and found that officers working in agencies that provided masks to protect against COVID-19 were less likely to be vaccine-hesitant, compared to agencies that did not provide masks. Agencies have a chance to revisit their policies and protocols in advance of new public health emergencies, with this OSAW data illustrating the importance of agency administration providing leadership to support public health within the officer community as well as the broader community.

PHQ-15 as a screening tool – Ramey et. al. (2023) found that officers' responses to the Patient Health Questionnaire-15 (PHQ-15), a scale capturing somatic symptoms, were significantly associated with additional wellness measures including sleep and exhaustion, stress, mental health, and suicidality. Importantly, this study indicates that the PHQ-15, when used as a self-administered screening tool, will increase awareness of physical and mental symptoms that may go unnoticed. Agencies may be able to support officer wellness by encouraging officers to check out this tool for their own use, to help increase officers' awareness of their physical and mental health, and by providing the services and referrals officers may need if they self-identify as needing support.

Coping Styles **–** In a latent class analysis of officer data, Blumberg et. al. (2023) identified a three-class model of coping. Nearly a third (31.9%) of officers were classified as Ineffective at coping, using emotion-focused/internalizing and problem-avoidant styles. Two out of five (40.8%) of officers were classified as Moderately Effective coping, characterized as actively seeking problem-focused strategies, but also a moderate probability of avoidant coping strategies. The remaining 27.3% of the officers were classified as Very Effective at coping, using task-oriented problem-focused styles, rarely employing internalizing strategies. Results of this paper found that coping styles predict officers' perceived stress, anxiety and depression, suicidality, alcohol abuse, and diet. Task-oriented, problem-

focused coping style was most effective at protecting against these negative outcomes. These OSAW findings point to a critical need to provide training for officers overall on effective, problem-focused coping strategies. And, while in general population samples, women tend to be better at coping than men, as they are more likely to seek support or professional counseling (Tamres et al., 2002), the OSAW results suggest that this assumption may not apply among law enforcement personnel.

Stress, Job Satisfaction, and Job Performance – Using longitudinal data from across all three waves of the OSAW Initiative, Mumford et al. (Under Review) examined time-ordered measures of perceived stress (Wave 1), job satisfaction (Wave 2), and job performance (Wave 3, as a self-rating and as a self-reported supervisory rating). As expected in the general sample, high stress predicted lower job satisfaction, which in turn was associated with lower job performance as rated by a supervisor. We looked more closely at these results to understand the moderating effects of individual resilience and agency wellness programs. While officers with a high baseline level of resilience still felt the impact of stress on their job satisfaction, the OSAW analyses suggest that their performance did not subsequently suffer. However, for officers starting out with low to moderate baseline resilience, our team found that perceived stress was negatively associated with subsequent job satisfaction at Wave 2, which in turn was positively associated with job performance at Wave 3, measured by a supervisory rating. Separately, those officers reporting easily accessible agency wellness programs, while still feeling the impact of stress on job satisfaction, tended to indicate that their greater job satisfaction was linked to better performance, measured by supervisory rating. By contrast, response data from officers who had access to wellness programs but had concerns about stigma or chose not to use these resources indicated a direct association between their perceived stress and their self-rated job performance, which was positively correlated with their supervisor's rating of their performance. These OSAW findings across agencies large and small, for officers working urban beats or otherwise, highlight the importance of investing at the agency level in training and supportive resources to build officers' resilience, for the benefit of job satisfaction (and likely retention) as well as job performance.

Effect of Occupational Status on Health **–** Using a multidimensional measure of occupational prestige capturing officers; ratings of their occupations on three dimensions – evaluation (E: good/bad), potency (P: powerful/weak), and activity (A: active/inactive) – Combs et. al. (2023) explored the relationship between occupational prestige and thirteen measures of health and wellbeing. Combs et al. found that EPA ratings were significantly predictive of eleven of the thirteen health outcomes, and that the EPA ratings were more predictive than other commonly used occupational prestige scores. The relationship between EPA ratings and the health outcomes was stronger for mental health outcomes compared to physical health outcomes, as the impact of prestige likely manifests more quickly into mental health issues, whereas physical health impacts may take more time to accumulate. These results have implications for recruitment, training and retention of officers. This OSAW research highlights the importance of examining what law enforcement work means to individuals considering their career options, whether at the outset or mid-career, to develop a stronger and healthier workforce.

Sleep, Social Support, and Suicidality – Plant et al. (2023) investigated how officers' suicidal thoughts and behaviors were related to social support, sleep disturbance, and agency stigma regarding the discussion of mental health. The team found that officers who reported sleep disturbances at Wave 2 were more likely to report suicidal thoughts and behaviors at Wave 3. In a mediation analysis, the team further found that the effect of sleep on officers' suicidality was partially accounted for by their lower social support – indicating that problems sleeping may cause difficulty with social relationships and lead to loneliness. Perceived agency stigma regarding mental health discussion in the agency environment was also predictive of suicidal thoughts and behaviors. These OSAW findings indicate the importance of creating an agency environment that is supportive of mental health discussion and help-seeking behaviors, which may increase feelings of social support and connection among officers. This, paired with a concern for officers' sleep, could have a positive effect on officers' mental health and a reduction in any feelings of suicidality.

Sexual Harassment **–** O'Leary et al. (Under Review) examined rates of sexual harassment by another officer and the association of agency characteristics and culture with experiences of sexual

harassment, building off of analyses conducted in OSAW-A (B. G. Taylor, Maitra, et al., 2022). Over one in four (28%) of officers reported having been sexually harassed by a fellow officer at some point in their career. This statistic masks the binary gender gap, with 66% of female officers reporting having ever experienced sexual harassment, compared to 13% of male officers. Using logistic modeling, marriage/cohabitation was protective against harassment, while working a rotating shift and higher levels of administrative stress were both risk factors for female officers. Finally, female officers who had worked as officers for more than 26 years were much more likely to have ever been sexually harassed, compared to female officers with 11-15 years of experience. These OSAW findings highlight the need for agencies to improve their agency policies, culture, and internal enforcement to prevent workplace sexual harassment. More attention to this issue for the male-dominated workforce may also be constructive for recruiting and retaining female officers.

Binge Drinking, Stress, and Resilience **–** Using multivariate logistic regression models, Dougherty et al. (under review December 2023) found that the odds of officers binge drinking monthly, or more frequently, increased with exposure to critical incidents as well as with higher levels of administrative stress. While the relationship between stress and binge drinking did not vary by level of officer resilience, officers with higher levels of resilience had lower odds of binge drinking. These OSAW findings indicate the importance of recognizing and mitigating stressors as well as building resilience among officers to reduce binge drinking behavior. Prior OSAW research has highlighted concerns about problem alcohol use among female officers, and further research examining the domains in which women in policing have or can build resilience is warranted (Mumford, Liu, & Taylor, 2021).

Occupational Prestige – Hudak et al. (under review December 2023) examine how LEOs view their occupation and the level of prestige that law enforcement holds for themselves and in their communities. Using multidimensional EPA measures (Freeland & Hoey, 2018), as well as traditional measures of occupational prestige, the research team found that officers view their occupation as more prestigious, morally good, and active, but less powerful than they believe the public views it. Furthermore, following George Floyd's murder by police, LEOs viewed their occupation as less

prestigious and believed the public's perceptions of the prestige and "goodness" of policing was significantly lower. This methodological approach provides significantly more insight to officers' perceptions than global measurements of job prestige, that tend to reflect socioeconomic standings, and thus may be informative for internal training as well as external recruitment strategies. Further, these results highlight the effect of public criticism on officers' morale regarding their profession. Taken in concert with Mumford et al.'s (2022) qualitative research, the OSAW Initiative results bring novel insights to the law enforcement and correctional professions.

Correctional Officer Health Profiles – Using a latent class analysis (LCA), the research team examined the health profiles of correctional officers in the OSAW sample (results not published). The LCA resulted in a 3-class solution of CO health – 68% were classified as healthy, 23% classified as poor physical and behavioral health, and 8.9% were classified as having moderate behavioral health and poor cognitive health. Respondents classified in the heathy class were characterized by low physical health problems, low risk for drinking, drug use, and suicide. The healthy class also reported low emotional distress, low attention deficit, executive functioning deficit, memory deficit, and perceived stress. On the other hand, respondents within the poor physical health and behavioral health had the highest reported physical health problems, risky drinking drug use, and suicide risk. This group also reported high emotional distress and perceived stress. The smallest class (less than 10% of the respondents) reported high risky drinking and moderate suicide risk, and very high deficits for all cognitive measures: attention deficit, executive functioning deficit, and memory deficit.

Several characteristics of correctional officers were associated with the health profiles. Compared to the healthy class, COs in the poor physical and behavioral health (AOR=0.32, p=0.010) and COs in the moderate behavioral health and poor cognitive health (AOR=0.25, p=0.036) were less likely to be female. Further, compared to the healthy class, officers in the moderate behavioral health and poor cognitive health were more likely to have 1-4 years of military experience (AOR=3.27, p=0.041) than no military experience. By contrast, compared to the healthy class, officers in the poor physical health and poor behavioral health were less likely to have less than five years of military experience (AOR=0.07,

p=0.024) than no military experience. Further examination of COs' health profiles relative to LEOs' health profiles is warranted (Mumford, Liu, & Taylor, 2021).

Implications

Through two grants from the National Institute of Justice (NIJ) funding for the Officer Safety and Wellness (OSAW) Initiative, the research team has developed the first nationally representative longitudinal study of law enforcement officer safety and wellness, generating four nationally representative datasets (the cross-sectional agency survey and the three longitudinal officer surveys), archived and available for further analyses.

Insights from OSAW Initiative analyses to date underscore the importance of the agency environment/climate for supporting officer well-being, from addressing perceived stigmas regarding mental health issues, to leading by example during public health emergencies, to making wellness programming accessible to officers. Additionally, OSAW Initiative research has highlighted the potential value of an easily self-administered brief tool, the Patient Health Questionnaire-15, for officers to check privately on their own wellness; education about using the tool accompanied with information about accessible resources through the agency may complement peer support groups and other law enforcement approaches to supporting officers. OSAW Initiative research has also emphasized the importance of identifying and addressing symptoms of low resilience and learning effective coping skills, to manage the challenges that come with a high-risk profession.

In sum, this study provides LEA administrators, policymakers, and officers with more data on the status of officer health and safety, as well as the potential to identify ways to improve officer health outcomes, job satisfaction, and job performance. These indicators are of course important to maintaining the well-being of the municipal, state, and federal workforce in the public safety sector. Additionally, however, the intersection of officer safety and wellness and public safety is critical to the general public and community safety. Optimal decision-making and officer performance are in the interest of public safety, and best supported by officers who are in a good position to integrate trainings, cope with

stressors, and adhere to agency protocols. Emotional regulation and coping skills can be built, and can help officers reduce stress, negative emotions, and depression (Abotalebi et al., 2023; Berking et al., 2010; McCraty & Atkinson, 2012; Nelis et al., 2011), and officers with personal resilience and agency-level support are likely to be more satisfied with their jobs and thus perform better in the line of duty (Mumford et al., Under Review). Taken together, the OSAW results can be used by LEAs to highlight the need to address officer health and safety issues which, if ameliorated, may help with both low recruitment and the retention of officers – key barriers the field of law enforcement is still facing (Police Executive Research Forum, 2019).

Several limitations should be considered in interpreting these findings. First, all data is self-reported and are subject to respondent recall and other biases (e.g., social desirability). Second, after three waves of longitudinal surveys, two of which occurred during the COVID-19 pandemic, there was significant officer attrition – from 2,867 LEOs in Wave 1 to 1,000 LEO/COs in Wave 3. While all analyses are weighted to be nationally representative and we can adjust for observed response bias through the use of weights (e.g., by gender or race), there may be unobserved bias in sample retention. For example, officers under more stress due to the COVID-19 pandemic may have not had the bandwidth to participate in the survey. Third, to ensure a low burden on respondents, we made efforts to use briefer versions of validated scales, and made decisions to shorten surveys based on findings from Wave 1 and the pilot study that preceded Wave 2. Therefore, some detail may be missing in terms of construct measurement, and some results may not be precisely comparable to other samples.

Our results highlight the current state of agency wellness programming and officer safety and health. The analyses included in this report and conducted as part of this study are not intended to be used to identify healthy or unhealthy officers, nor to identify agencies with better or worse policies, organizational culture, or wellness program offerings. We hope these results are informative for agency leadership to better understand the health and wellness needs of their officers when reflecting on their policies and programs, as well as for officers to better understand their own health and wellness and experiences within their agency.

Appendix A. Law Enforcement Officers – Weighted Descriptive Characteristics

Variable	OSAW Wave 1 (N=2,867)		OSAW Wave 2 (N=1,924)		OSAW Wave 3 (N=1,000)	
	%/mean (SD)	N Missing	%/mean (SD)	N Missing	%/mean (SD)	N Missing
Officer Type				0		0
Law Enforcement	100%		84.0%		87.4%	
Corrections	-		16.0%		12.6%	
Race		26		3		8
White	78%		78.2%		81.8%	
Black	7.3%		8.7%		6.7%	
Hispanic	9.2%		9.2%		7.6%	
Other	5.6%		3.9%		3.9%	
Gender		22		0		1
Male	87.0%		74.9%		75.1%	
Female	13.0%		25.1%		24.9%	
Age	41.44 (9.6)	29	43.42 (9.5)	1	45.39 (8.91)	3
Years Sworn		17		4		5
0-5	19.0%		14.2%		9.1%	
6-10	14.4%		13.8%		13.2%	
11-15	16.1%		16.8%		14.5%	
16-20	19.5%		18.9%		18.8%	
21+	31.4%		36.3%		44.52%	
Education		12		0		3
High school	6.8%		8.2%		6.8%	
GED/equivalent	0.7%		1.0%		1.0%	
Some college, no degree	25.6%		24.7%		25.3%	
Associate's degree	19.7%		16.4%		15.0%	
Bachelor's degree	36.6%		37.2%		37.7%	
Master's degree	9.8%		11.5%		13.1%	
Professional school	0.5%		0.6%		0.6%	
Doctoral	0.2%		0.4%		0.5%	
Rotation status		52		1		0
Never	33.6%		35.1%		31.6%	
Yes, but not currently	46.9%		47.1%		19.6%	
Yes, currently	19.5%		17.8%		48.8%	
Duty Assignment		10		0		1
Officer/Deputy/Trooper	47.8%		40.7%		34.8%	
Corporal	5.2%		5.1%		4.3%	
Sergeant	17.1%		18.3%		20.2%	
Lieutenant or above	13.2%		16.5%		23.3%	
Investigator/Detective	11.0%		12.4%		12.2%	
Other	5.8%		7.0%		5.2%	
Sector		38		13		52
Only urban	40.6%		36.6%		37.7%	
Only suburban	21.9%		24.2%		27.8%	
Only rural	16.2%		17.0%		16.0%	
Mix of urban and suburban	6.2%		5.4%		5.4%	
Mix of urban, suburban, and rural	7.6%		5.7%		5.1%	
Other	7.5%		11%		8.0%	
Second job outside of agency				4		4
No	61.7%	94	58.7%		63.5%	
Yes	38.2%		41.3%		36.5%	
Hours worked per week in your department	44.8 (8.3)	36	44.9 (9.1)	4	44.8 (9.2)	7

References

Abotalebi, L., Latifi, Z., & Noori, G. (2023). The effectiveness of quality of life therapy on fear and anxiety control in at-risk workers of electricity company. *Current Psychology*, *42*(6), 4663–4671.

Anderson, G. S., Litzenberger, R., & Plecas, D. (2002). Physical evidence of police officer stress. *Policing: An International Journal of Police Strategies & Management*, *25*(2), 399–420.

Appels, A., & Schouten, E. (1991). Waking up exhausted as risk indicator of myocardial infarction. *The American Journal of Cardiology*, *68*(4), 395–398.

Barnum, J. B., Richardson, D. A., & Mumford, E. A. (2023). *A pilot test of survey incentives to increase law enforcement officer response rates.* American Society of Criminology 2023 Annual Meeting, Philadelpha, PA.

Berking, M., Meier, C., & Wupperman, P. (2010). Enhancing emotion-regulation skills in police officers: Results of a pilot controlled study. *Behav Ther*, *41*(3), 329–339. https://doi.org/10.1016/j.beth.2009.08.001

Berking, M., & Znoj, H. (2008). Entwicklung und Validierung eines Fragebogens zur standardisierten Selbsteinschätzung emotionaler Kompetenzen (SEK-27). *Zeitschrift Für Psychiatrie, Psychologie Und Psychotherapie*, *56*(2), 141–153.

Blosnich, J. R., Dichter, M. E., Cerulli, C., Batten, S. V., & Bossarte, R. M. (2014). Disparities in adverse childhood experiences among individuals with a history of military service. *JAMA Psychiatry*, *71*(9), 1041–1048.

Blumberg, D. M., Mumford, E. A., Park, J. E., O'Leary, M. S., & Liu, W. (2023). The Role of Coping Styles in US Law Enforcement Officer Health and Wellness. *Journal of Police and Criminal Psychology*, 1–13.

Bradley, K. A., DeBenedetti, A. F., Volk, R. J., Williams, E. C., Frank, D., & Kivlahan, D. R. (2007). AUDIT-C as a Brief Screen for Alcohol Misuse in Primary Care. *Alcoholism: Clinical and Experimental Research*, *31*(7), 1208–1217. https://doi.org/10.1111/j.1530-0277.2007.00403.x

Cohan, S. L., Jang, K. L., & Stein, M. B. (2006). Confirmatory factor analysis of a short form of the Coping Inventory for Stressful Situations. *Journal of Clinical Psychology*, *62*(3), 273–283. a9h. https://doi.org/10.1002/jclp.2021

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *J Health Soc Behav*, *24*(4), 385–396. https://doi.org/10.2307/2136404

Combs, A., Freeland, R. E., Hudak, K. M. A., & Mumford, E. A. (2023). The effect of occupational status on health: Putting the social in socioeconomic status. *Heliyon*, *9*(11).

Corso, R. A. (2009). Harris Poll# 86, August 4, 2009. *Rochester: The Harris Poll, Harris Interactive*.

Dougherty, M., O'Leary, M. S., & Mumford, E. A. (2023). *Binge Drinking, Job Stressors, and Resilience in a Nationally Representative Sample of Law Enforcement Officers*.

Fagan, P., Augustson, E., Backinger, C. L., O'Connell, M. E., Vollinger, R. E., Kaufman, A., & Gibson, J. T. (2007). Quit Attempts and Intention to Quit Cigarette Smoking Among Young Adults in the United States. *American Journal of Public Health*, *97*(8), 1412–1420. https://doi.org/10.2105/AJPH.2006.103697

Franke, W. D., Collins, S. A., & Hinz, P. N. (1998). Cardiovascular disease morbidity in an Iowa law enforcement cohort, compared with the general Iowa population. *Journal of Occupational and Environmental Medicine*, *40*(5), 441–444.

Freeland, R. E., & Hoey, J. (2018). The Structure of Deference: Modeling Occupational Status Using Affect Control Theory. *American Sociological Review*, *83*(2), 243–277. https://doi.org/10.1177/0003122418761857

Hudak, K. M. A., Combs, A., Freeland, R. E., & Mumford, E. A. (2023). *Occupational prestige of law enforcement officers and variation across sociodemographic characteristics: Quantifying self and public perceptions of prestige*.

Juster, R.-P., McEwen, B. S., & Lupien, S. J. (2010). Allostatic load biomarkers of chronic stress and impact on health and cognition. *Neuroscience & Biobehavioral Reviews*, *35*(1), 2–16. https://doi.org/10.1016/j.neubiorev.2009.10.002

King, L. A., King, D. W., Vogt, D. S., Knight, J., & Samper, R. E. (2006). Deployment Risk and Resilience Inventory: A collection of measures for studying deployment-related experiences of military personnel and veterans. *Military Psychology*, *18*(2), 89–120.

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2003). The Patient Health Questionnaire-2: Validity of a two-item depression screener. *Medical Care*, *41*(11), 1284–1292. https://doi.org/10.1097/01.MLR.0000093487.78664.3C

Kroenke, K., Spitzer, R. L., Williams, J. B., & Löwe, B. (2010). The Patient Health Questionnaire somatic, anxiety, and depressive symptom scales: A systematic review. *General Hospital Psychiatry*, *32*(4), 345–359. https://doi.org/10.1016/j.genhosppsych.2010.03.006

Lara, M. A., Navarro, C., Mondragon, L., Rubi, N. A., & Lara, M. D. (2002). Validity and reliability of the MHI5 for evaluating depression in women at the primary health care level. *Salud Mental*, *25*(6), 13–20.

Liu, W., Taylor, B., & Mumford, E. A. (2023). Prevalence and determinants of safety equipment use: Analysis from a national dataset of law enforcement officers in the US. *International Journal of Police Science & Management*, 14613557231189428.

Maguire, B. J., Hunting, K. L., Smith, G. S., & Levick, N. R. (2002). Occupational fatalities in emergency medical services: A hidden crisis. *Annals of Emergency Medicine*, *40*(6), 625–632. https://doi.org/10.1067/mem.2002.128681

Maloney, E. (2020). The social psychology of occupational status groups: Relationality in the structure of deference. *Social Psychology Quarterly*, *83*(4), 463–475.

McCraty, R., & Atkinson, M. (2012). Resilience Training Program Reduces Physiological and Psychological Stress in Police Officers. *Global Advances in Health and Medicine*, *1*(5), 44–66.

McCreary, D. R., & Thompson, M. M. (2006). Development of Two Reliable and Valid Measures of Stressors in Policing: The Operational and Organizational Police Stress Questionnaires. *International Journal of Stress Management*, *13*(4), 494–518.

McEwen, B. S., & Stellar, E. (1993). Stress and the Individual: Mechanisms Leading to Disease. *Archives of Internal Medicine*, *153*(18), 2093–2101. https://doi.org/10.1001/archinte.1993.00410180039004

Mourtgos, S. M., Adams, I. T., & Nix, J. (2022). Elevated police turnover following the summer of George Floyd protests: A synthetic control study. *Criminology & Public Policy*, *21*(1), 9–33. https://doi.org/10.1111/1745-9133.12556

Mumford, E. A., Alfaro Hudak, K., Liotta, M. M., O'Leary, M. S., Ramey, & Sandra. (2022). Occupational prestige and job satisfaction in high-stress public safety work. *Policing: A Journal of Policy and Practice*, paac049.

Mumford, E. A., Liu, W., & Taylor, B. G. (2021). Profiles of U.S. Law Enforcement Officers' Physical, Psychological, and Behavioral Health: Results From a Nationally Representative Survey of Officers. *Police Quarterly*, *24*(3), 357–381. https://doi.org/10.1177/1098611121991111

Mumford, E. A., Liu, W., Taylor, B. G., & Ramey, S. (2021). Profiles of US Law Enforcement Officers' Diagnosed Health Conditions: Results From a Probability-Based Sample of Officers. *Journal of Occupational and Environmental Medicine*, *63*(5), 422–431. https://doi.org/10.1097/jom.0000000000002162

Mumford, E. A., Maitra, P., Liu, W., & Taylor, B. G. (2021). A nationally representative study of law enforcement shiftwork and health outcomes. *Journal of Occupational & Environmental Hygiene*. https://doi.org/10.1080/15459624.2021.1876876

Mumford, E. A., & Taylor, B. G. (2022). *Law Enforcement Officers Safety and Wellness: A Multi-Level Study, United States, 2017-2020* [dataset]. [distributor]. https://doi.org/10.3886/ICPSR37821.v1

Mumford, E. A., Taylor, B. G., Liu, W., Barnum, J., & Goodison, S. (2020). *Law Enforcement Officers Safety and Wellness: A Multi-Level Study* [Final Report]. National Institute of Justice. https://nij.ojp.gov/library/publications/law-enforcement-officers-safety-and-wellness-multi-level-study

Mumford, E. A., W., L., & O'Leary, M. S. (Under Review). *U.S. Law Enforcement Officers' Stress, Job Satisfaction, Job Performance, and Resilience: A National Sample*.

Neighbors, C., Lostutter, T. W., Larimer, M. E., & Takushi, R. Y. (2002). Measuring gambling outcomes among college students. *Journal of Gambling Studies*, *18*(4), 339–360.

Nelis, D., Kotsou, I., Quoidbach, J., Hansenne, M., Weytens, F., Dupuis, P., & Mikolajczak, M. (2011). Increasing emotional competence improves psychological and physical well-being, social relationships, and employability. *Emotion*, *11*, 354–366. https://doi.org/10.1037/a0021554

O'Leary, M., Taylor, B., & Mumford, E. A. (Under Review). *Sexual harassment of officers by officers: Hostile environment on the job*.

Osman, A., Bagge, C. L., Gutierrez, P. M., Konick, L. C., Kopper, B. A., & Barrios, F. X. (2001). The Suicidal Behaviors Questionnaire-Revised (SBQ-R): Validation with clinical and nonclinical samples. *Assessment*, *8*(4), 443–454.

Plant, A., Mumford, E. A., O'Leary, M. S., & Maitra, P. (2023). Predicting Suicidal Thoughts and Behaviors Among Public Safety Officers: Implications of Sleep Disturbance, Emotional Support, and Stigma. *Journal of Police and Criminal Psychology*.

Police Executive Research Forum. (2019). *The workforce crisis, and what police agencies are doing about it.*

Prins, A., Ouimette, P., Kimerling, R., Camerond, R. P., Hugelshofer, D. S., Shaw-Hegwer, J., Thrailkill, A., Gusman, F. D., & Sheikh, J. I. (2004). The primary care PTSD screen (PC-PTSD): Development and operating characteristics. *International Journal of Psychiatry in Clinical Practice*, *9*(1), 9–14.

Ramey, S. L., Liotta, M. M., Park, J. E., O'Leary, M. S., & Mumford, E. A. (2023). Exploring the Patient Health Questionnaire-15 as a screening tool for wellness in law enforcement. *Police Practice and Research*, 1–18.

Regehr, C., Carey, M. G., Wagner, S., Alden, L. E., Buys, N., Corneil, W., Fyfe, T., Matthews, L., Randall, C., White, M., Fraess-Phillips, A., Krutop, E., White, N., & Fleischmann, M. (2019). A systematic review of mental health symptoms in police officers following extreme traumatic exposures. *Police Practice and Research*, *DOI: 10.1080/15614263.2019.1689129*, 1–15. https://doi.org/10.1080/15614263.2019.1689129

Simons, J., & Gaher, R. (2005). The Distress Tolerance Scale: Development and Validation of a Self-Report Measure. *Motivation and Emotion*, *29*(2), 83–102.

Stanley, E. S., Mumford, E. A., Liu, W., Taylor, B., & Maitra, P. (2021). The Role of Military Service and Childhood Adversity in U.S. Law Enforcement Officer Health and Wellness. *Journal of Police and Criminal Psychology*, *36*, 490–505.

Syed, S., Ashwick, R., Schlosser, M., Jones, R., Rowe, S., & Billings, J. (2020). Global prevalence and risk factors for mental health problems in police personnel: A systematic review and meta-analysis. *Occupational and Environmental Medicine*, oemed-2020-106498. https://doi.org/10.1136/oemed-2020-106498

Tamres, L. K., Janicki, D., & Helgeson, V. S. (2002). Sex Differences in Coping Behavior: A Meta-Analytic Review and an Examination of Relative Coping. *Personality and Social Psychology Review*, *6*(1), 2–30. https://doi.org/10.1207/s15327957pspr0601_1

Taylor, B. G., Liu, W., & Mumford, E. A. (2022). A national study of the availability of law enforcement agency wellness programming for officers: A latent class analysis. *International Journal of Police Science & Management*, *24*(2), 175–189. https://doi.org/10.1177/14613557211064050

Taylor, B. G., Maitra, P., Mumford, E., & Liu, W. (2022). Sexual Harassment of Law Enforcement Officers: Findings From a Nationally Representative Survey. *Journal of Interpersonal Violence*, *37*(11–12), NP8454–NP8478. https://doi.org/10.1177/0886260520978180

Taylor, B. G., Mumford, E. A., Kaplan, A. M., & Liu, W. (2023). Concerns about COVID-19 vaccine hesitancy among law enforcement officers: Prevalence and risk factor data from a nationally representative sample in the United States. *Vaccines*, *11*(4), 783.

Taylor, J., & Westover, J. H. (2011). Job satisfaction in the public service: The effects of public service motivation, workplace attributes and work relations. *Public Management Review*, *13*(5), 731–751.

Velazquez, E., & Hernandez, M. (2019). Effects of police officer exposure to traumatic experiences and recognizing the stigma associated with police officer mental health. *Policing: An International Journal*, *42*(4), 711–724.

Violanti, J. M., & Steege, A. (2020). Law enforcement worker suicide: An updated national assessment. *Policing: An International Journal*, *44*(1), 18–31.

Wagnild, G. M. (2011). *The resilience scale user's guide: For the US English version of the Resilience Scale and the 14-item Resilience Scale (RS-14)*. Resilience center.

Weiss, D. S., Brunet, A., Best, S. R., Metzler, T. J., Liberman, A., Pole, N., Fagan, J. A., & Marmar, C. R. (2010). Frequency and severity approaches to indexing exposure to trauma: The Critical Incident History Questionnaire for police officers. *Journal of Traumatic Stress*, *23*(6), 734–743. https://doi.org/10.1002/jts.20576