

UNDERSTANDING CORRECTIONAL OFFICER STRESS*

Preliminary Report on Findings from Data Collected from the
MASSACHUSETTS DEPARTMENT OF CORRECTION

Natasha A. Frost, Ph.D.
Carlos E. Monteiro, Ph.D.
Stacie St. Louis, M.S.
Bradley Luckett

NORTHEASTERN UNIVERSITY
SCHOOL OF CRIMINOLOGY & CRIMINAL JUSTICE

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EXECUTIVE SUMMARY

PROJECT BACKGROUND

In 2014, researchers Marie Griffin and John Hepburn from Arizona State University received federal funding from the National Institute of Justice for their proposed study, “*Measuring the Effects of Correctional Officer Stress on the Well-Being of the Individual Officer and the Prison Workplace and Developing a Practical Index of Correctional Officer Stress for Use by Correctional Agencies.*” The three-year (two phase) study involved collaboration with researchers and departments of correction from two other states, Massachusetts and Texas. A team from Northeastern University, led by Natasha Frost and Carlos Monteiro, collected all data for Massachusetts. Upon receiving approval from the Massachusetts Department of Correction (MA DOC) to conduct this research, the Northeastern University research team worked with Dr. Rhiana Kohl and the staff at the Research and Strategic Planning Division of the MA DOC to coordinate data collection with each of the involved facilities. Data were collected in two phases through hour-long interviews with more than 500 Officers and Sergeants currently working for the Massachusetts Department of Correction. All data collected were de-identified and sent to Arizona State University for processing. Data from Texas have now also been collected and Arizona State University is responsible for developing and testing the final models using data from both states. This preliminary report, prepared by the Northeastern University research team, provides an overview of the methods and findings specific to both phases of data collected in Massachusetts.

DATA COLLECTION

Data collection involved in person on-site, on-shift interviews and administrative data from official personnel records for those who provided consent. The interview instrument was designed by the lead research team from Arizona State University and touched on a range of factors including participant personal and demographic characteristics, facility conditions, indicators of acute stress, job-related information, behavioral effects of stress, and formal/informal help-seeking. The instrument also included parts of commonly used scales that assess the manifestation and effects of stress in the prison organization. These validated scales were included to help understand how stress affects organizational wellbeing, with a focus on understanding the effects of stress on the prison organization. For more sensitive questions, officers were asked to self-record their response by reading the questions and circling the most applicable answer. Administrative data collected included data pertaining to absenteeism, performance evaluations, on-the-job injuries, inmate complaints, inmate misconduct reports issued, use of force incidents, and other incidents.

PHASE ONE OVERVIEW

In Phase One, the Northeastern University research team identified eight minimum, medium, and maximum security facilities with the MA DOC and randomly selected 350 officers in the rank of CO-I (Officer) and CO-II (Sergeant) from the list of all officers holding that rank currently working at one of the eight facilities (N=2,371).¹ The facilities included in Phase One were Bridgewater State Hospital, MCI-Cedar Junction, MCI-Concord, MCI-Framingham, MCI-Shirley, Northeastern Correctional Center, and Souza Baranowski Correctional Center.

Phase One interviews began in December 2015 and were completed by June 2016. During this seven-month period, our research team conducted intensive interviews with 259 out of the 350 randomly selected correctional officers working within one of the eight selected correctional facilities (74% participated; 26% declined to participate).

In addition to the intensive interviews, the secondary objective in Phase One involved the review of administrative and personnel data on each of the participating officers. Following each interview, participating officers were asked to consent to the research team reviewing and coding data from his or her personnel file as well as administrative records kept by the Massachusetts Department of Correction. Of those who participated in the interview, 92 percent agreed to allow the research team to review their personnel files (n=237). Participants' characteristics in terms of gender, race, CO grade, age, and years on the job almost exactly mirror those of the population of all MA DOC correctional officers holding the rank of CO-I or CO-II (suggesting that the final sample is representative of the broader population of officers working for the MA DOC).

In this preliminary report, we include contrasts across facilities for the benefit of the Massachusetts Department of Correction, which was interested in learning about any facility-based, or security-level based differences. It is crucial to note that even though we highlight differences, most of these differences across sites are *not significant*, meaning they are not evidence of actual difference in the populations working at these facilities. These contrasts should therefore be interpreted as perhaps interesting, but not particularly indicative of actual distinctions.

¹ The random sample included almost 15% of all officers in the rank of CO-I and CO-II at the time the population was sampled (November 2015). The decision to limit the sample to those in the rank of CO-I and CO-II was made by the Arizona State University research team. Methodological decisions had been made prior to the selection of Massachusetts as a site and could not be changed. As noted above, Massachusetts was a research site and not the lead in the overall study.

PHASE ONE FINDINGS

The key findings from Phase One interviews allowed us to focus on relevant factors in Phase Two.

- **Acute stress.** Self-reported stress and perceptions of stress among correctional employees were key concerns in this study. Almost half of all officers reported being under a lot of stress, with more than a quarter indicating they were highly stressed at that moment (in other words, acutely stressed). During the interview, officers were also asked to estimate the percentage of the workforce that they perceived to be highly stressed. On average, officers estimated an accurate percentage of other officers (~47%) as being highly stressed suggesting that they generally understand the pervasiveness of stress among colleagues. Supervisors seemed to also matter a great deal as officers indicated their stress level often varied depending on which supervisor was on shift. More specifically, 61 percent of officers either agreed or strongly agreed that their level of stress varied based on which supervisor was on shift.
- **Life stress.** Life stress questions were used to capture events occurring in the individual's life that may be causing stress. Approximately one in five officers were currently experiencing relationship problems, but fewer reported that they were currently experiencing financial or legal problems. Of the participants, only 13 percent reported financial problems and only 7 percent reported law enforcement contact.
- **Health effects.** Health effects were also a key concern in this study. Officers perceived themselves to be generally healthy, with roughly 83 percent reporting that they were in good to excellent health. A quarter (25%) of the participating officers reported chronic or ongoing health problems and 26 percent reported recent injuries.
- **Stress and emotional health and wellbeing.** The strongest relationships were observed between the different types of stress (life and work) and psychological effects (particularly emotional exhaustion and depression) Officers working in maximum security facilities exhibited higher levels of life stress and emotional exhaustion, but similar levels of work stress and depression to those working in mediums/minimums.
- **Exposure to violence.** Exposure to violence is prevalent. Almost half reported having been physically assaulted, with most reporting assaults requiring medical care and

time off. More than half had witnessed assaults on other staff. Threats of violence are even more prevalent, as 74 percent of officers reported having been threatened, with 36 percent of those threats occurring within the past month at the time of the interview.

- **Physical assaults.** Physical assaults were far more common among those in maximum-security facilities, but there were no significant relationships between assaults and stress or depression/emotional exhaustion. There were relatively weak but significant relationships between assaults and organizational citizenship and counterproductive work behavior.

In addition to these descriptive results, a series of multiple regression analyses were used to assess the relationship between key independent variables on individual and organizational outcomes.

- Education level, tenure, job satisfaction, security level and promotion-related stress are key predictors of what we refer to as **generalized stress and anxiety (GSA)**.
- Only job satisfaction and promotion-related stress predicted higher **work stress (WS)**.
- Generalized stress and anxiety (GSA) and work stress (WS) predict both **emotional exhaustion** and **depression**. Working at a maximum-security facility was also a predictor of emotional exhaustion; and lower levels of education predicted higher levels of depression.
- Work stress (WS), security level-maximum, number of reprimands, and witnessing staff assaults predict **interpersonal Counterproductive Work Behavior (CWB-I)**. Generalized stress and anxiety (GSA), experiencing assaults, unpaid time off, and lower rank, increase **organizational Counterproductive Workplace Behavior (CWB-O)**, whereas having children decreases it.
- Rank increases both interpersonal and organizational **Citizenship Behavior**, suggesting that higher ranking officers (e.g. Sergeants) exhibit higher levels of citizenship behavior. Witnessing staff assault by inmates also increases both types of OCB. Working in a lower security level facility predicts increased interpersonal OCB.

PHASE TWO OVERVIEW

The initial objective for Phase Two, as proposed by the Arizona State University research team, was to validate a “stress index” created based on the findings from Phase One. It was anticipated that the stress index would prove useful to correctional agencies as a tool for identifying officers suffering from chronic or acute elevated stress. However, analyses of data collected in the first phase did not produce findings that would allow for the creation of an index. Without an index as a guide in the sampling criteria, the Arizona State University investigators chose to focus on two common correlates of stress among correctional officers: *security-level* and *tenure*.

In Phase Two, officers were randomly selected from each of four facilities based on security level (from two maximum security and two Min/Med security facilities) and tenure (distinguishing between officers with less than seven years of services and those with seven or more years of service). These criteria were determined by the Arizona State University Research Team based on analyses of Phase One data from Massachusetts. Both maximum security facilities (MCI-CJ and SBCC) were included. The medium security facilities in close proximity (MCI-Norfolk and MCI-Shirley) were selected to represent the minimum and medium security facilities (non-maximum). The sampling strategy for Phase Two required the creation of four groups:

1. Maximum security, long tenure (7 or more years of service)
2. Min/Med security, short tenure (less than 7 years of service)
3. Maximum security, short tenure (less than 7 years of service)
4. Min/Med security, long tenure (7 or more years of service)

Using these criteria, our research team drew a random sample of 340 officers (85 officers from each of the four groups) and contacted 330 officers between February and June 2017.² Data collection in Phase Two only included a shortened version of the Phase One interview. There was also no need to collect administrative data as those data were not deemed useful to the creation of an index. Of the 330 officers contacted in Phase Two, 249 were interviewed (75% participated; 25% decline to participate).

PHASE TWO FINDINGS

Findings in Phase Two for the most part validated findings in Phase One, with many of the same relationships between constructs emerging as significant. The sampling strategy in

² Ten officers from Souza Baranowski Correctional Center were never contacted as we stopped interviewing at SBCC following the suicide of Aaron Hernandez in April 2017.

Phase Two essentially controls for security-level and tenure through the creation of four groups. We therefore focus the discussion of Phase Two findings on analysis of other correlates that emerged as significant after selecting based on security-level and tenure.

- Regression results revealed that **gender** was a significant predictor of Generalized Stress and Anxiety (GSA), where females reported higher GSA controlling for other factors.
- Other significant predictors of life stress include **higher social support** and **higher job satisfaction**, both of which seem to predict lower Generalized Stress and Anxiety.
- **Social support** and **job satisfaction** were also significant predictors of work stress, with higher levels of social support and job satisfaction predicting **lower work stress**.
- Level of inmate contact (as in time spent with inmates) was also a significant predictor of work stress, however, somewhat counter-intuitively **more inmate contact hours** seem to predict **lower work stress**.
- In the final model, Generalized Stress and Anxiety (GSA) and Work Stress (WS) were both found to be significant predictors of **depression** and **emotional exhaustion**.

CONCLUSIONS AND RECOMMENDATIONS

We have learned quite a lot through this research on correctional officer stress conducted in collaboration with the Massachusetts Department of Correction (MA DOC). Over the course of approximately two years, we interviewed more than 500 officers currently working for the Department of Correction as either Officers or Sergeants.

Relatively high-level of stress were observed among these officers and both work stress (WS) and generalized stress and anxiety (GSA) impacted emotional and social wellbeing, particularly with regard to depression and emotional exhaustion.

Organizational strategies for stress management are a core focus for the MA DOC; however, some of the most telling results of the study indicate that correctional officers were at best reluctant to seek help with stress management of any sort and were overwhelmingly skeptical of stress management services that were offered by the MA DOC. Almost half of all officers reported that they were **not at all likely to seek help with stress management** even if they were under a great deal of stress and needed help. Across both phases of this research, almost 60% of all officers reported that they were not at all likely to seek help if that help was provided by a MA-DOC resource.

Officers also regularly reported frustration at the Department's perceived lack of interest in their opinions and perspectives, even though the officers seem to understand the issue of stress and the struggles faced by correctional officers in their lives.

Through our work with officers, through conversations with supervisors and administrators, and through analyses of data discussed in this preliminary report, we offer the following recommendations:

1. Create a real mechanism for officers to provide feedback to the administration and to ensure that the feedback is taken into consideration as departmental policies and procedures are formulated.
2. Recognize and address the reluctance of officers to seek help even when they know they need it. Consider alternate external mechanisms for employee assistance given so few officers reported a willingness to engage with a DOC provide service.
3. Consider post rotations from high stress to lower stress functions and high stress to lower stress facilities.
4. Provide training to supervisors and administrators to identify acute stress (and distress) and make referrals for services on behalf of officers who may be experiencing acute stress.
5. Assaults on officers and exposure to violence were prevalent, but officers reported minimal debriefing following most incidents. There is a voluminous body of research on the effects of repeated exposure to violence that can inform debriefing methods designed to ameliorate those effects.
6. Public perception seemed to be another common concern of officers. Responses to the Counterproductive Work Behavior questions suggested that officers are concerned about negative image of corrections and a poor public image. MA DOC should consider mechanisms to improve DOC public image including promoting the positive work and achievements of corrections officers as appropriate.
7. Consider implementing a more holistic wellness program in collaboration with the union and department administrators that addresses stress and officers' needs. Development of such a program should involve constructive participation from officers, administrators, union representatives, and officer families as appropriate.

Through this work, we also became aware of a perceived elevated rate of suicide among officers working for the MA DOC. As a result, we applied for our own federal grant to study correctional officer suicide and its impacts on individual and institutional wellbeing. We received that funding in 2016 and are again working collaboratively with the Massachusetts Department of Correction and the Massachusetts Corrections Officers Federated Union (MCOFU) to conduct this essential research.

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PROJECT BACKGROUND & CONTEXT

In September 2014 the National Institute of Justice funded a national study of correctional officer stress to be carried out with two state departments of corrections. The study, “*The Emotional and Behavioral Effects of Stress among Correctional Officers*,” was developed by Marie Griffin and John Hepburn of Arizona State University as a three-year (two-phase) project to test a series of hypotheses surrounding the effects of correctional officer stress on the individual and on the prison organization. Data collected in Phase One would both advance our knowledge and understanding of the impact of stress among correctional officers on the prison workplace of today and allow for the creation of a “stress index” that might prove useful to correctional agencies in search of a tool to identify officers suffering from chronic or acute elevated stress. That index (or tool) would then be validated in Phase Two.

During the Spring of 2015, principal investigator, Dr. Natasha Frost, met with then Commissioner Carol O’Brien of the Massachusetts Department of Correction and presented her with a research proposal aimed at understanding correctional officer stress. In July 2015, Dr. Natasha Frost and her research team from Northeastern University received notification from the Department of Correction approving the proposed study. Beginning in August 2015, the Northeastern research team worked with Dr. Rhiana Kohl, Executive Director of the Research and Planning Division of the MA DOC to discuss logistical aspects of conducting such a complex study. Dr. Kohl arranged for a series of preparatory meetings with the selected sites and with the divisions maintaining the necessary administrative data. Where possible, preliminary meetings at sites included union stewards from the Massachusetts Correction Officers Federated Union (MCOFU).

After a series of meetings with Dr. Rhiana Kohl, in December 2015, we officially launched the study on the emotional and behavioral effects of stress among correctional officers in

collaboration with the Massachusetts Department of Correction (MA DOC) and the Massachusetts Corrections Officers Federated Union (MCOFU), led by Dr. Natasha Frost and her Northeastern University research team.

Phase One interviews were conducted across eight facilities in 2015 and 2016. Phase Two interviews were conducted across four facilities in 2016 and 2017. Presentations of key findings (contained in the executive summary) were given to the MA DOC commissioner and deputy commissioners, the MA DOC Executive Leadership Team (superintendents and other administrators) and to the executive board of the Massachusetts Correction Officers Federated Union (MCOFU).

PURPOSE AND GOALS OF THE PROJECT

Correctional environments are highly complex and the current literature suggest that the level of stress for correction officers working in these environments are generally higher than those reported by employees in other occupations. There have been several recent comprehensive reviews of the research on the effects of working in corrections on correctional officers. These reviews of literature on correctional officer wellness have documented an array of negative relational effects ranging from withdrawal and marital problems, to high divorce and disability rates; employment related effects including negative attitudes toward work and high rates of job dissatisfaction, absenteeism, burnout, and turnover; and health effects including hypertension, stress related cardiovascular disease, and elevated rates of suicide. This growing body of empirical evidence suggests that correction officers exposed to a variety of stressors that are associated with a number of debilitating effects on the wellbeing of the officer.

While research in correctional environments are expanding, significant gaps still remain, particularly related to the effects of officer stress on the well-being of the prison workplace and on officer job performance. Against this backdrop, this research study extends the current state of knowledge by addressing two other important empirical questions. The first question is how correctional officer stress levels affect the well-being of the prison organization, particularly related to task performance, organizational citizenship behaviors, and counterproductive work behaviors. The second question is whether research can identify the different individual level factors available from both the administrative and survey data that can be used to predict variation in stress among correction officers.

OVERVIEW OF METHODOLOGY

Professor Natasha Frost served as the Principal Investigator for the project and Carlos Monteiro, served as the Project Director. Northeastern University doctoral, graduate and undergraduate students also provided research assistance.

The study was conducted in two phases, beginning in December 2015 and finishing in July 2017. In Phase One, the research team randomly selected 350 officers in the rank of CO I and CO II from eight department of correction facilities in the Commonwealth. The sampling criteria of correctional officers in the rank of I and II was purposeful in allowing a better understanding of stress through an examination of the individuals believed to deal with the breadth of correctional work. Upon selecting the sample, our research team collaborated with Dr. Kohl to arrange pre-launch meetings with key administrators and officers at each of the selected facilities. The meetings at each of the facilities offered the research team a chance to present the study overall and discuss logistics and contact points for conducting the day to day research. The meetings also offered the staff and officers a chance to get a transparent understanding of the research, ensuring that all involved staff were content with the study's overall process and objective. In arranging the meetings we specifically asked that officers of all rank, union stewards, and directors of security be in attendance as they were the individuals who could serve as representatives to the larger correctional staff. Our hopes were that meeting attendants could then help disseminate information about the study, in hopes of gaining greater participation.

Reviews of literature suggest that considerable difficulties exist in conducting correctional officer studies, particularly given the context of the research. It goes without saying that prisons offer numerous challenges for staff and officers, even so, the staff and officers of the MA DOC provided us with a significant advantage in conducting this research despite the added challenges of welcoming a research team in to their daily working environment.

Once identified in the random sample, each officer was approached during his/her shift at the prison and invited to participate in the study. Our research team discussed the project with each officer and allowed the officer time to review the information and the informed consent. In addition to conducting interviews, the second major objective in Phase One involved collection of personnel data on each of the participating officers. Following the interview, each participating officer was asked to consent to the research team reviewing data from his or her personnel file as well as administrative records kept by the Massachusetts Department of Correction. The objective of the personnel file reviews was to determine if the levels of stress and the effects of stress on the officers, as reported in the interview, were reflected in any way in the officer's work history.

The objective in this methodology was to allow for a comprehensive study that would develop a practical stress index for samples of correctional officers currently working in the Massachusetts Department of Correction; and identifying officers in need of assistance.

The Massachusetts Department of Correction agreed to participate as one of two sites because stress (and adequately responding to stress) among its correctional staff is a core concern. The Massachusetts Correction Officers Federated Union (MCOFU) also supported this research and encouraged participation. Indeed, in many instances, the support of the union stewards at the research sites was clearly integral to securing officer participation.

Stress is an issue for everyone and in every occupation, but research suggests that the unique work environment of correctional institutions is especially conducive to elevated stress among correctional officers. A growing body of research finds that correctional officers are exposed to a variety of job-related stressors; that stress levels are higher among correctional officers than other occupations; and, that stress can have serious personal, medical, behavioral, attitudinal, and emotional consequences for the officer. Results from the comprehensive stress study are documented in this preliminary report.

SITE SELECTION

Working with the Arizona State University team and the MA DOC, the principal investigators selected eight facilities of varying security levels across the department of correction in Massachusetts for Phase One. The selected facilities include: (1) Northeastern Correctional Center (minimum), (2) Bridgewater State Hospital (medium), (3) MCI Shirley (minimum/medium), (4) MCI Concord (medium), (5) MCI Norfolk (medium), (6) MCI Framingham (medium), (7) MCI Cedar Junction (maximum), and (8) Souza Baranowski Correctional Center (maximum).

The MA DOC provided a list of all officers in the rank of CO-I (officers) or CO-II (sergeants). A simple random sample of 350 correctional officers was selected from the list of all officers currently working at one of the eight correctional facilities.

FACILITIES

The Massachusetts Department of Correction (MA DOC) runs seventeen state correctional facilities, eleven of which are classified as medium or maximum-security facilities. Our research team selected eight of these facilities, including two minimum, two maximum, and three medium level security prisons. In addition to these traditional correctional facilities, the research team also included Bridgewater State Hospital as a site in Phase One.

MCI CONCORD AND NORTHEAST CORRECTIONAL CENTER

MCI-Concord (MCI-C) is a Medium Security facility with an operational capacity of 752. Northeastern Correctional Center (NECC) is a minimum-security facility whose 6 participants were added to Concord's participants for analysis. MCI-Concord and NECC were research sites in Phase One.

SOUZA BARANOWSKI CORRECTIONAL CENTER

Souza Baranowski Correctional Center (SBCC) is a maximum-security facility with an operational capacity of 1,410. SBCC was a research site in both Phase One and Phase Two.

MCI SHIRLEY

MCI-Shirley (MCI-S) is a minimum/medium-security facility with an operational capacity of 1,455. MCI-S was a research site in both Phase One and Phase Two.

BRIDGEWATER STATE HOSPITAL

Bridgewater State Hospital (BSH) is a medium security facility with an operational capacity of 372 inmates. Bridgewater State Hospital was a site in Phase One.

MCI NORFOLK

MCI-Norfolk (MCI-N) is medium security facility with an operational capacity of 1,474. MCI-Norfolk was a research site in both Phase One and Phase Two.

MCI CEDAR JUNCTION

MCI-Cedar Junction (MCI-CJ) is a maximum-security facility with an operational capacity of 646 inmates. MCI-Cedar Junction was a research site in both Phase One and Phase Two.

MCI FRAMINGHAM

MCI-Framingham (MCI-F) is a medium security facility with an operational capacity of 609 and is the only women's prison in the state. MCI-Framingham was a research site in Phase One.

DATA AND METHODS

Phase one of the correctional officer stress project launched in December 2015 and ended in July 2016. The main objective in phase one was to interview at least 250 randomly selected officers working at one of the eight department of correction facilities. Once interviewed, officers were asked whether they were willing to allow the Northeastern University research

team to access their personnel files for administrative data that might prove helpful in the development of a tool to identify acute stress.

The objective in phase two was to validate the “stress index” based on data collected during the first round of interviews (in phase one). However, analyses of phase one data (discussed in detail below) did not result in the development of an index. The change of strategy on the part of the Arizona State University principal investigators meant that we would no longer use the index as a guide in our sampling criteria for phase two. Instead, sample selection for Phase Two interviews focused on two common correlates of stress among correctional officers: security-level and tenure.

In phase two, our research team randomly selected 340 officers from four facilities based on security level and tenure (2 maximum and 2 medium security facilities). More specifically, the research team used the full list of correctional officers working at these four facilities as the population. From this population, officers selected in Phase One were removed, which then left a group of all the remaining officers, and were sorted into four groups based on security-level of their current facility and tenure with the MA DOC as follows:

1. Maximum security, long tenure (7 or more years of service)
2. Min/Med security, short tenure (less than 7 years of service)
3. Maximum security, short tenure (less than 7 years of service)
4. Min/Med security, long tenure (7 or more years of service)

Once the groups were created, 85 officers were randomly sampled from each of the four groups.

SAMPLE

Truly random samples are necessary to draw valid conclusions that are generalizable to the broader population of interest (here all correction officers with the rank of Officer or Sergeant). Table 1 below provides a demographic summary of the sample of officers selected in Phase One and the population from which that sample was drawn from, providing a clearer picture of the generalizability of the findings.

In Phase One, the total number of correctional officers with the rank of CO I and II working in one of the eight facilities selected was 2,371. The random sample of 350 officers described below is representative of the total population. Male officers, for example, account for 88 percent of the total number of correctional officers in those eight selected facilities and 88 percent of the officers in our final sample. White officers accounted for the majority of the

officers (84%) in both the population in the final sample (83%). The average age of correctional officers in both the population and the final sample was 38 and the average number of years on the job was also identical in both population and sample distributions. Lastly, correctional officer grade was also identical in both the population and final sample. Sergeants accounted for 17 percent of the population and final sample.

As should always be the case when employing random sampling, the characteristics of the selected sample of correctional officers almost exactly mirrors those of the population from which they derive.

The table below emphasizes the similarities between the population and selected sample on gender, race, age, CO grade, and years on the job (tenure). Although the interview was voluntary and officers were free to refuse participation, approximately 74% of the selected sample ultimately participated in the study. Even accounting for the 91 individuals who elected not to participate in interviews, the participating officers are quite similar demographically to the total population of officers and sergeants working at one of these eight facilities.

TABLE 1. PHASE ONE POPULATION, SAMPLE, & PARTICIPANT CHARACTERISTICS (2016)

	Population		Selected Sample		Participants	
	%	N	%	n	%	n
Gender						
Male	88%	2076	88%	308	85%	221
Female	12%	295	12%	42	15%	38
Race/ethnicity						
White	84%	1996	83%	291	82%	211
Black/African American	7%	166	8%	29	10%	25
Hispanic	7%	165	7%	24	7%	18
Asian/Other Pacific Islander	2%	35	1%	5	2%	4
Native American	0%	5	0%	0	0%	1
CO grade						
CO I	83%	1965	83%	290	85%	221
CO II	17%	406	17%	60	15%	40
	Mean	Median	Mean	Median	Mean	Median
Age	38.3	37	38.2	37	38.2	37
Years on job	1	8	1	8	9.8	7

Total	2371	350	259
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Phase Two included a random sample of 340 officers selected from two medium and two maximum security facilities. In Phase Two, the total number of correctional officers with the rank of CO I and II working at one of these four facilities was 1,199. Table 2 below provides a similar demographic summary of the population of officers and the sample of officers selected in Phase Two.

TABLE 2. PHASE TWO POPULATION, SAMPLE, & PARTICIPANT CHARACTERISTICS (2017)

	Population		Selected Sample		Participants	
	%	N	%	n	%	n
Gender						
Male	91%	1093	90%	316	91%	226
Female	9%	106	10%	34	9%	23
Race/ethnicity						
White	85%	1021	83%	289	85%	211
Black/African American	6%	72	8%	27	6%	16
Hispanic	7%	83	8%	29	7%	18
Asian/Other Pacific Islander	1%	17	1%	4	1%	3
American Indian/ Alaskan Native	0%	5	0%	1	0%	1
CO grade						
CO I	85%	1025	87%	304	85%	211
CO II	15%	174	13%	46	15%	38
	Mean	Median	Mean	Median	Mean	Median
Age	38.2	36	38.3	36	38.5	37
Years on job	10.4	9	8.49	7	8.7	7
Total		1199		340		249

Table 2 demonstrates that the random sample of 340 officers is representative of the total population. Male officers, for example, account for 91 percent of the total number of correctional officers in those four selected facilities and 90 percent of the officers in our final sample. White officers accounted for the majority of the officers (85%) in the population and roughly 83 percent in the final sample. The average age of correctional officers in both the population and the final sample was 38; and the average number of years on the job was ten years for officers in the overall population and eight and half years

for officers in the final selected sample. As for correctional officer grade, 85 percent of the officers in the population held the rank of CO-I, as did 87 percent of the officers in our final sample. The table demonstrates that the sample was quite representative of the entire population of officers currently working at the four selected facilities.

In Phase Two, a total of 340 officers were sampled, however, the research team only made contact with 330 officers (we stopped interviewing at SBCC following the suicide of Aaron Hernandez and never made contact with the ten officers who remained on our list).

Table 3 below provides a breakdown of participation figures in order of facilities with the highest percentage of completed interviews. In Phase One, 72 out of the 331 officers contacted refused to participate. Our research team completed interviews with 259 out of the 331 eligible correction officers, for a final participation rate of 78 percent. In addition to completed interviews, the research team also sought permission to access the administrative records of each participant who agreed to be interviewed. Of the 259 officers who completed interviews in Phase One, 237 (or 92%) agreed to have the research team review their personnel and employment data. Participation in Phase Two was comparable. In Phase Two there was a final sample of 340 correction officers spread across four facilities (MCI-CJ, MCI-Norfolk, MCI-Shirley, and SBCC). Of the 340 officers selected, 330 were contacted, and a total of 249 officers completed interviews (75%).

Attrition is attributable to refusal rates or to unavailability of officers for reasons including staffing, vacation time, military deployment, maternity leave, and industrial accidents. These final participation rates are impressive for a study of this size and complexity.

TABLE 3. FINAL PARTICIPATION RATES**PHASE ONE**

Facility	Sample Size	Contacted	Refused Interviews		Completed Interviews		Administrative Data	
MCI-CJ	66	59	21	36%	38	64%	37	97%
SBCC	63	63	7	11%	56	89%	52	93%
MCI-N	57	53	9	17%	44	83%	42	95%
MCI-C	53	51	18	35%	33	65%	27	82%
MCI-F	44	42	3	7%	39	93%	35	90%
MCI-S	37	37	7	19%	30	81%	28	93%
BSH	24	20	7	35%	13	65%	11	85%
NECC	6	6	0	0%	6	100%	5	83%
Total	350	331	72	22%	259	78%	237	92%

PHASE TWO

Facility	Sample Size	Contacted	Refused Interviews		Completed Interviews	
MCI-S	71	71	30	42%	41	58%
MCI-N	80	80	18	23%	62	78%
SBCC	99	89	4	4%	85	96%
MCI-CJ	90	90	29	32%	61	68%
Total	340	330	81	25%	249	75%

ANALYTICAL APPROACH

The data collected in this research was coded and examined for errors. In this preliminary report, we present these data using a stepwise analytical approach that includes descriptive, univariate, bivariate, and inferential statistical analyses. The stepwise approach allows for logical interpretation of findings. The first step in this approach was to provide descriptive information, also known as univariate statistics, which describe the center, distribution, and scope of the data collected. For example, univariate statistics provide information on the mean, mode, and median age of all the officers in the sample. Univariate statistics also lends itself well to graphical illustrations (such as histograms and charts) that offer a clearer interpretation. While univariate statistics do not examine relationships, they can provide information on important data elements such as frequency, variation, and distribution.

The second analytical step was to conduct bivariate analyses to examine associations between two or more of the variables in the dataset. One common bivariate analysis, known as a correlation, looks at the strength of the relationship between two or more variables. For example, one of the current study's objective was to closely examine the association between security level and stress, with hopes of identifying the strength of the relationship between officers working in high security facilities and their stress levels.

In addition to the correlation statistic, the study also used hypotheses testing to investigate whether differences between groups/variables are significant enough to indicate the presence of a meaningful relationship. For example, these analyses investigated whether the differences in stress levels between male and female officers working in high security facilities are due to chance or highlight some other explanation. The hypotheses tests used in this study include chi-square tests, t-tests, and ANOVAs.

Lastly, multiple regression analysis was used to assess the relationship between key independent variables on individual and organizational levels of stress.

PHASE ONE AND PHASE TWO COHORTS

The following sections provide an overview of Phase One and Phase Two sample: including demographic, tenure, military background, and rank. Data used in these analyses were provided by the Personnel Office and the Research and Planning Division of the Massachusetts Department of Correction (MA DOC).

In Phase One, the data related to the interview process were obtained from a sample of 259 participants. Phase One also included an additional component obtained from the employee personnel files of 237 participants who gave consent to have their records reviewed by the research team. All (259) participants were required to provide consent to

the interview and survey portion of the research. At the end of the interview, participants were then presented with a second consent form that strictly focused on the request for access to officers' administrative data. Officers were asked for permission to access administrative data that the Department of Correction routinely collected, through its personnel office and through the administrative offices at the prisons. The data collected included the following: age, gender, tenure, years in rank, some personnel data including sick and personal leave time taken in the past year, voluntary/involuntary overtime, and any awards or recognitions received as well as performance evaluations. We also recorded data related to any injuries officers may have suffered on the job, any incidents they may have witnessed or have been involved in while working (including incidents that may have resulted in complaints), and any documented prior contact with law enforcement. We requested access to these data to assess whether excessive stress on the job may have negative impacts on many aspects of a correctional officer's life, which could be used for constructing an index that might allow for early identification of high levels of stress among correctional officers.

DEMOGRAPHICS

RACE AND ETHNICITY

White officers make up the largest percentage of officers within the final samples of both Phases One and Two (82% and 85%, respectively). Black (10% and 6%) and Hispanic (7% and 7%) officers accounted for a small percentage of the sample, however, this was expected given that Black and Hispanic officers are also underrepresented in the overall population of officers at the department, with white officers accounting for roughly 85 percent of all officers at the department during both Phase One (2016) and Phase Two (2017). Very few officers identified as another race/ethnicity, such as Asian or American Indian (less than 3% in both phases).

TABLE 4. RACE/ETHNICITY BY OF PARTICIPATING OFFICERS BY FACILITY

Facility	Phase One								Phase Two							
	White		Black		Hispanic		Other		White		Black		Hispanic		Other	
MCLC/NECC	30	77%	3	8%	4	10%	2	5%	-	-	-	-	-	-	-	-
BSH	10	77%	2	15%	1	8%	0	0%	-	-	-	-	-	-	-	-
MCLF	30	77%	5	13%	4	10%	0	0%	-	-	-	-	-	-	-	-
MCLS	26	87%	1	3%	3	10%	0	0%	48	79%	3	5%	7	12%	3	5%
MCLN	34	77%	6	14%	2	5%	2	5%	53	86%	5	8%	4	7%	0	0%
MCLCJ	35	92%	2	5%	1	3%	0	0%	34	83%	5	12%	1	2%	1	2%
SBCC	46	82%	6	11%	4	7%	0	0%	76	89%	3	4%	6	7%	0	0%
Total	211	81%	25	10%	211	8%	4	1%	211	84%	16	7%	18	7%	4	2%

GENDER

As anticipated, the majority of participating officers within both Phase One and Two were male. Women were better represented within Phase One (15%) mainly due to the inclusion of MCI-Framingham, where almost half of the sampled officers were female (49%). As preliminary analyses did not warrant the inclusion of MCI-Framingham within Phase Two, the percentage of female officers dropped to approximately nine percent. The percentage of female officers in our sample was expected given that female correction officers made up approximately 10 percent of all officers across the department.

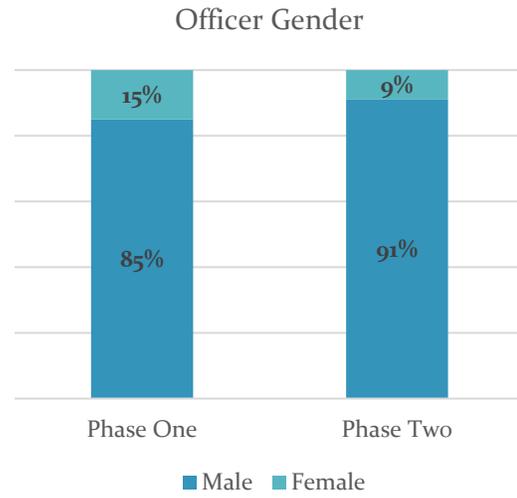
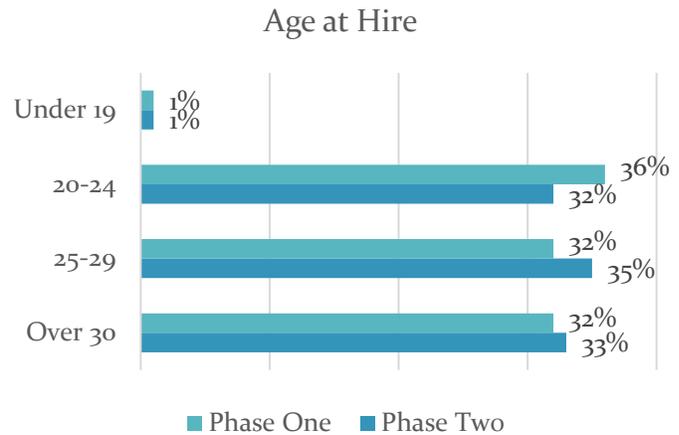


TABLE 5. GENDER OF PARTICIPANTS BY FACILITY

Facility	Phase One				Phase Two			
	Male		Female		Male		Female	
MCLC /NECC	35	90%	4	10%	-	-	-	-
BSH	11	85%	2	15%	-	-	-	-
MCLF	20	51%	19	49%	-	-	-	-
MCL-S	26	87%	4	13%	56	92%	5	8%
MCL-N	43	98%	1	2%	56	90%	6	10%
MCL-CJ	36	95%	2	5%	37	90%	4	10%
SBCC	50	89%	6	11%	77	91%	8	9%
Total	221	85%	38	15%	226	91%	23	9%

AGE AT HIRE

On average, officers in both Phases One and Two were hired as a MA DOC correctional officer at 28 years-old. Officers are rarely employed right out of high school; only 1% of officers in both samples were hired at ages 18 and 19. Moreover, there were few apparent trends in the age at hire, as the distributions in both phases were fairly consistent across with about one-third of all officers hired within the following age groups: 20-24, 25-29, and over 30.



EDUCATION LEVEL AT HIRE

Education-related data were obtained only for those 237 officers who granted the research team permission to review their personnel record during Phase One. Approximately 67% of the officers (out of 237) have some college level educational training upon hire. While high school education was standard across the sample, only 20 percent of the officers received a bachelor's degree at time of hire. Moreover, 12% had completed their associate's degree.

MARITAL STATUS & CHILDREN

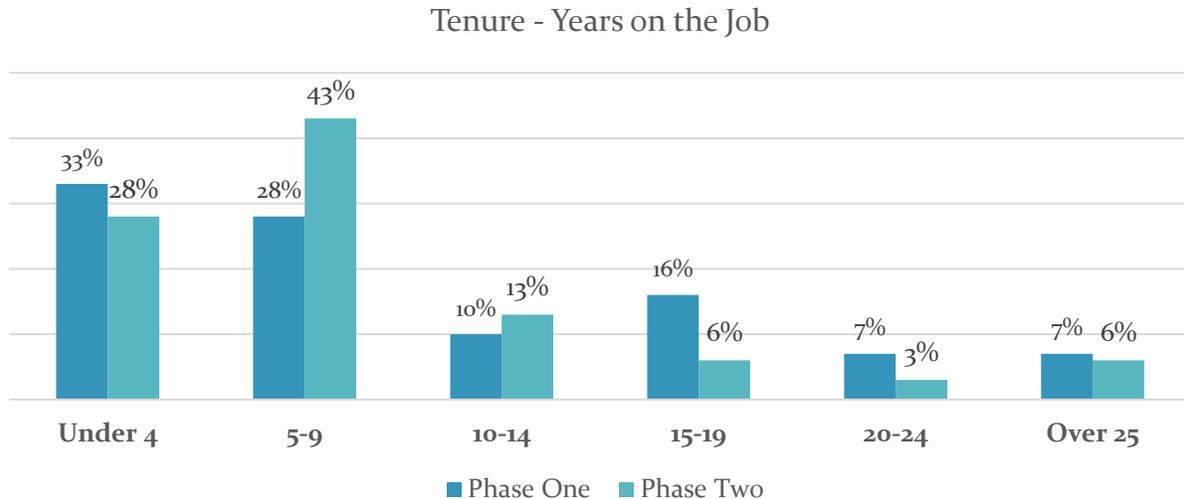
A little less than half of the officers in both Phases One and Two (45% and 48%, respectively) had been married at least once, and approximately 21% of officers had been married two or more times. Of those officers that have been married, the majority were married only once (Phase One: 71%; Phase Two: 82%). Many of the sampled officers had at least one child at the time of their interview (Phase One: 66%; Phase Two: 75%). On average, participants in both phases had an average of two children.

MILITARY BACKGROUND

In each phase, a little over a quarter of the sample self-identified as veterans (Phase One: 27%; Phase Two: 28%). According to the administrative files of the 237 consenting officers in Phase One, the majority of officers (86%) had served in the Army, Marines, or Reserves/National Guard as opposed to the Air Force or Coast Guard. Administrative file reviews occurred during Phase One only.

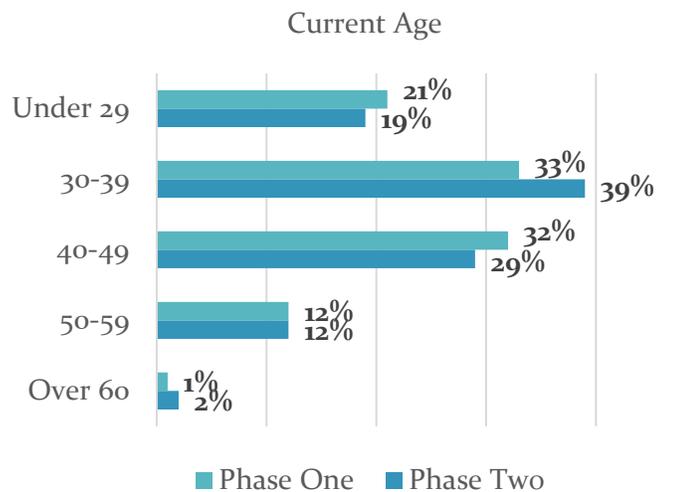
TENURE – YEARS ON THE JOB

On average, the majority of officers in this study (Phase One: 61%; Phase Two: 71%) worked for the MA DOC for less than 10 years. On average, participants had been employed for approximately 10 years in Phase One and 8 years in Phase Two. Only a small percentage of officers had remained on the job for more than 20 years (Phase One: 14%; Phase Two: 9%).



AGE AT INTERVIEW

The average age of officers who participated in the study was 38 (38 in Phase One and 39 in Phase Two). The majority of the officers were between the ages of 30 and 39 (Phase One: 33%; Phase Two: 39%), though a fairly substantial portion was between 40-50 years of age (Phase One: 32%; Phase Two: 29%). Participants ranged from as young as 23 years of age to the most senior participant at 65 years of age.



INTERVIEW INSTRUMENT

In addition to collecting data on individual and demographic factors, the research included the use of a series of validated scales that have been used across numerous other studies of large organizations, including prisons. These measures were used to assess the manifestation and effects of stress on the individual and in the prison organization. In particular, these validated scales were included to further understanding how stress affects organizational wellbeing, with a focus on understanding the effects of stress on the prison organization. The complete list of scales is included in Table 7 below and each is described in turn starting with the individual measures before turning to the organizational.

TABLE 7. COMPLETE LIST OF SCALES IN PHASE ONE INSTRUMENT

CO Stress Study – Scales
1. Correctional Institutions Environment Scale
2. Turnover Intent
3. Task Performance
4. Erosion of Authority
5. Social Support
6. Life Stress (Generalized Stress and Anxiety)
7. Work Stress
8. Emotional Exhaustion
9. Depression
10. Psychosomatic Symptoms
11. Depersonalization Disengagement
12. Organizational Citizenship Behavior – Organizational (OCB-O)
13. Organizational Citizenship Behavior – Individual (OCB-I)
14. Counterproductive Workplace Behavior – Interpersonal (CWB-I)
15. Counterproductive Workplace Behavior – Organizational (CWB-O)
16. Organizational Commitment
17. Job Satisfaction
18. Corrosion of Authority
19. Promotion stress
20. Procedural Justice in Promotions
21. Administrative Support

STRESS-RELATED MEASURES

Numerous scales were used to assess correctional officer stress, through both validated stress measures and stress-proxy scales. These include: “Generalized Stress and Anxiety”, “Work-Related Stress”, “Emotional Exhaustion”, “Depression”, “Depersonalization/Disengagement”, and “Promotion-Related Stress.” Each measure is described below, with the final section reviewing differences in stress across facilities.

STRESS MEASURE: GENERALIZED STRESS AND ANXIETY (GSA)

Life stressors are quite broad, and this is certainly the case for correctional officers. This study used a “Generalized Stress and Anxiety” (GSA) scale to capture events occurring in the individual’s life that may be causing stress. The GSA was adapted by the Arizona State University team from the “Perceived Stress Scale”, a validated psychological instrument commonly used for measuring the perception of stress. The GSA scale assesses symptoms related to stress with questions about feelings and thoughts during the last month. Respondents were asked to provide self-perceptions regarding a range of factors. For example, one question asked “how often have you felt difficulties were piling up so high that you could not overcome them?” Each question was measured on a scale of “never” (0) to “very often” (4). With eleven questions contributing to this scale, the largest possible range was 0 to 44. While included in both phases, Phase Two did omit one question from the scale (making the range 0-40).

STRESS MEASURE: WORK STRESS (WS)

Understanding the level of work stress (WS) for participants is an integral aspect of this study. In both phases of the research, a WS scale focused on emotions and perceived pressure while on duty utilizing six questions such as, “I am usually calm and at ease when at work” and “when I’m at work, I often feel tense or uptight.” These questions allowed us to determine stress levels at work as well as perceived stress levels during daily duties. With response options ranging from “strongly disagree” (1) to “strongly agree” (5), the largest possible range of the final scale was 6-30.

STRESS PROXY-EMOTIONAL: EMOTIONAL EXHAUSTION

Emotional exhaustion refers to the deficiency of emotional energy, which has been associated with high stress levels. The questions in this study used to measure emotional exhaustion are subscales of the widely used “Maslach Burnout Inventory,” a validated measure of burnout in psychology research. Measured in both phases, this scale asked seven questions revolving around feelings and energy levels before, during, and after

workdays. Questions such as “In the past month, how often have you felt used up at the end of the workday?” and “In the past month, how often have you felt emotionally drained from work?” were aimed to gauge the amount of psychological and physical exhaustion in the participant's life due to work. Response options for the seven items ranged from “never” (0) to “very often” (4) with a largest possible range of 0 to 28.

STRESS PROXY-EMOTIONAL: DEPRESSION

In both Phase One and Two, a depression scale was used to measure levels of participants' depression in the month prior to the questionnaire. These questions focused on core symptoms of depression such as energy levels, enjoyment, and current emotional status. The seven questions used in the instrument, such as “In the past month, how often have you felt so downhearted that nothing could cheer you up?” helped gauge the presentation of depression in participant's lives. Response options for the seven items ranged from “never” (0) to “very often” (4), the largest possible range was from 0 to 28.

STRESS PROXY-EMOTIONAL: DEPERSONALIZATION/DISENGAGEMENT

Depersonalization and disengagement refer to a person's lack of ability to connect with others, and are symptoms of detachment and high stress levels. In both phases, the instrument used an adapted form of the “Maslach Burnout Inventory” to determine participants' levels of disengagement. This included nine questions concerning sympathy towards both coworkers' and inmates' problems, such as, “in the past month, how often have you felt distant from others around you?” Response options ranged from “never” (0) to “very often” (4) with a total range of 0 to 36.

PROMOTION-RELATED STRESS (PHASE ONE ONLY)

The instrument also included a promotion-related stress scale that helped determine participant's attitudes towards the promotion process; these questions were only included in the Phase One instrument. The six items asked participants to report on how stressful they perceive different aspects of the promotion process, including “the criteria used for promotion” and “concerns about the impact of promotion on daily work schedule.” With response options ranging from “not at all stressful” (1) to “very stressful” (5), the largest possible range was from 6 to 30.

VARIATION ACROSS FACILITIES

While there were many differences between stress-related measures across the seven facilities included in Phase One and the four in Phase Two, none of these findings were

statistically significant. Interestingly, in regard to GSA, Emotional Exhaustion, and Depression, MCI-Shirley featured the lowest values in Phase One, but the highest in Phase Two. Additionally, while SBCC yielded the highest values in all Phase One categories (with the exception of Work Stress), within Phase Two, they were only the highest in one: Depersonalization/Disengagement. Even when re-examining the Phase One findings to only consider the four facilities sampled in Phase Two, there lacks a consistent overlap between the two phases.

TABLE 8. PHASE ONE STRESS-RELATED SCALES BY FACILITY

Facility	GSA	Work Stress	Emotional Exhaustion	Depression	Depersonalization/ Disengagement	Promotion Stress
BSH	22.85	19.69	12.31	9.69	15.15	14.90
MCI-CJ	21.13	17.29	12.24	9.89	16.95	16.95
MCI-C	22.18	17.24	11.60	9.97	15.81	15.81
MCI-F	22.33	18.90	11.32	9.92	17.17	17.17
MCI-N	20.16	18.20	10.86	8.57	15.67	15.67
SBCC	22.98	19.03	12.82	10.27	17.45	17.45
MCI-S	19.38	17.53	9.17	8.17	16.37	16.37
Total	21.43	18.17	11.48	9.48	16.56	16.64

TABLE 9. PHASE TWO STRESS-RELATED SCALES BY FACILITY

Facility	GSA	Work Stress	Emotional Exhaustion	Depression	Depersonalization/ Disengagement
MCI-CJ	21.05	18.13	10.00	8.68	14.42
MCI-N	20.86	18.41	10.80	8.02	14.68
SBCC	21.06	18.11	10.55	8.13	14.78
MCI-S	22.04	17.93	11.92	8.98	13.92
Total	21.25	18.14	10.85	8.40	14.40

OTHER OCCUPATIONAL MEASURES

In addition to the stress-related scales, numerous other scales were also included in the instrument including: Job Satisfaction, Procedural Justice Related to Promotions, Administrative Support, Turnover Intent, Erosion of Authority, and Social Support. The section concludes with an analysis examining facility-level differences in these six scales. Descriptions of these other occupational measures are located in the Appendix.

VARIATION ACROSS FACILITIES

Similar to the stress-related results, while there is much variation between facilities within the seven individual-level scales, the majority of these differences are not statistically significant.

TABLE 10. PHASE ONE INDIVIDUAL-LEVEL SCALES BY FACILITY

Facility	Job Satisfaction	Procedural Justice	Administrative Support	Turnover Intent	Erosion of Authority	Social Support
BSH	17.33	20.15	11.77	2.92	16.19	20.82
MCI-CJ	18.10	20.45	10.26	3.76	16.11	21.71
MCI-C	17.88	21.69	12.09	3.61	17.15	21.56
MCI-F	17.18	19.91	12.41	3.84	16.03	21.85
MCI-N	18.21	21.57	11.64	3.95	16.00	21.77
SBCC	17.14	19.80	10.67	3.87	16.55	21.80
MCI-S	18.17	20.44	11.52	3.52	16.00	21.86
Total	17.74	20.51	11.43	3.74	16.30	21.72

* p<0.10, **p<0.05, ***p<0.01

Across the Phase Two facilities, there are significant differences in Administrative Support where officers from MCI-Shirley reported the highest levels of administrative support and MCI-Cedar Junction the lowest. Moreover, variation in perceptions of Social Support approached significance with MCI-Shirley reporting the highest values and MCI-Norfolk the lowest. Turnover Intent scores were highest at MCI-Norfolk and lowest at MCI-Shirley.

TABLE 11. PHASE TWO INDIVIDUAL-LEVEL SCALES BY FACILITY

Facility	Job Satisfaction	Procedural Justice	Administrative Support	Turnover Intent	Erosion of Authority	Social Support
MCI-CJ	16.63	20.83	11.34	3.98	16.00	22.40
MCI-N	16.30	20.66	11.95	4.00	15.84	21.98
SBCC	17.20	20.80	12.23	3.42	16.57	22.92
MCI-S	17.00	20.74	13.69	3.35	15.87	23.22
Total	16.84	20.75	12.38**	3.63*	16.05	22.71*

* p<0.10, **p<0.05, ***p<0.01

ORGANIZATIONAL MEASURES AND EFFECTS ON THE WORKPLACE

Finally, numerous organizational-level scales were examined to better understand the effects that stress, and other individual-level characteristics, can have on the workplace environment. These include topics related to “Organizational Citizenship Behavior”, “Counterproductive Workplace Behavior”, “Organizational Commitment”, and “Task Performance”, each of which are discussed below. The section concludes by examining differences in these scales across facilities. All six scales were only measured in the Phase One instrument. Detailed descriptions of these organizational measures and effects on the workplace can be found in Appendix B.

VARIATION ACROSS FACILITIES

A series of ANOVA analyses (see Table 12 below) indicate that there are a number of significant differences between organizational measures across facilities.

TABLE 12. PHASE ONE ORGANIZATIONAL-LEVEL SCALES BY FACILITY

Facility	OCB Organizational	OCB Individual	CWB Interpersonal	CWB Organizational	Org Commitment	Task Performance
BSH	34.17	33.20	4.27	4.10	21.00	2.22
MCI-CJ	27.81	33.84	9.03	6.76	21.66	3.73
MCI-C	22.17	30.73	8.27	7.55	20.55	3.38
MCI-F	28.69	35.64	5.82	5.18	20.87	2.54
MCI-N	30.22	35.83	4.05	5.21	22.25	2.79
SBCC	26.44	34.31	5.42	5.61	20.12	3.26
MCI-S	29.54	37.30	4.87	6.36	22.31	3.40
Total	27.74**	34.55**	5.98***	5.86	21.21	3.17*

* p<0.10, **p<0.05, ***p<0.01

Across both Organizational Citizenship Behavior measures – organizational and individual – MCI-Cedar Junction had the lowest average values. On average, officers at BSH exhibited the highest for OCB-Organizational scores while officers at MCI-Shirley exhibited the highest OCB-Individual scores. There were also significant differences in

Counterproductive Work Behavior scores across facilities. Officers at MCI-Cedar Junction reported the highest CWB-Interpersonal and MCI-Norfolk the lowest. CWB-Organizational and Organizational Commitment, however, were both not significant. Finally, differences in Task Performance across the seven facilities approached significance with BSH having the lowest and MCI-Cedar Junction the highest.

KEY FINDINGS

INMATE INTERACTIONS

Correctional officers generally spend the majority of their shift directly in contact with inmates, as noted by their estimates of approximately 5.5 hours per shift in both phases of the study (see “Table 18”). In spending so much time surrounded by inmates, most of the participating officers identified that they had been threatened by inmates sometime throughout their career (P1: 73%, P2: 78%), though only about a third noted that this had occurred in the past month (p1: 36%, P2: 32%). Officers self-reported having used force against an inmate 3.5 times on average, with a range spanning from 0 to 60 times over their career.

Additionally, approximately half of the officers have been physically assaulted by an inmate (44%) and/or witnessed a co-worked be assaulted (51%). Of those who were physically assaulted, many of the incidents required medical attention (64%), and a large percentage (40%) resulted in work being missed as a result of the injury. Although a number of these variables were included in more sophisticated, multivariate analyses of stress and effects of stress, none of these exposures to violence indicators were associated with any of the outcomes measured.

TABLE 13. DESCRIPTIVE STATISTICS - INMATE INTERACTIONS

	PHASE ONE		PHASE TWO	
	Yes % (n)	No % (n)	Yes % (n)	No % (n)
Have you ever been physically assaulted by an inmate?	44% (113)	56% (146)	Not asked	
<i>If ever assaulted, did any incident require medical attention?</i>	64% (72)	36% (41)	Not asked	
<i>If assaulted, did you miss work as a result of the injury?</i>	40% (45)	60% (68)	Not asked	
In the past year, have you witnessed an assault of any officer or staff by an inmate?	51% (51)	49% (49)	Not asked	
Ever receive threats from an inmate or group of inmates?	73% (188)	27% (70)	78% (194)	22% (54)
In the past month, have you received threats from an inmate or group of inmates?	36% (92)	65% (166)	32% (80)	61% (152)
On a typical shift, how many hours do you spend directly in contact with inmates?	Avg: 5.5		Avg: 5.4	
How many times have you been involved in a situation in which you had to use force against an inmate?	Avg: 3.5		Not asked	

GENDER AND STRESS

As mentioned under the “Demographics” section, both Phase One and Phase Two samples were male-dominated. This was to be expected considering the male-driven population of the correctional workforce. The Phase One sample is comprised of 38 females (15%) and 221 males (85%); in Phase Two, the sample contained 23 females (9%) and 255 males (91%). This variation in female participants between the two phases can be attributed to the inclusion of MCI-Framingham (a female-only facility with a large proportion of female officers) only in Phase One.

While one may expect that differences in officer gender would highly correlate with stress, few significant relationships exist within either phases of the sample. Female officers more frequently identified that they are under a lot of stress (whether it was due to work or things happening outside of the job) and that they were currently highly stressed; however, these relationships were not statistically significant. Although female officers (as compared to males) do experience substantially more Work Stress and Generalized Stress and Anxiety, these relationships did not persist across both phases; rather, Work Stress approached significance only in Phase One, and Generalized Stress and Anxiety only in Phase Two.

Female officers within both samples more often experienced Depression and Emotional Exhaustion. While neither were significant, the relationship between gender and Emotional Exhaustion approached significance. There was no clear pattern between gender and Depersonalization/Depression; in Phase One, males experienced more of this, but Phase Two findings were the opposite. Gender, however, does predict Promotion Stress, where female officers are significantly more likely to experience these stressors than their male counterparts. This relationship between gender and promotion stress was only examined in Phase One, as these questions were removed from the Phase Two instrument. Thus, while gendered differences are prevalent within a select few stress-related measures, preliminary results from Massachusetts suggest that female officers do not experience significantly different levels of life nor work stress than male officers.

TABLE 14. PHASE ONE AND PHASE TWO ANALYSES OF GENDER AND STRESS

	PHASE ONE				PHASE TWO			
	Females (n=38)		Males (n=221)		Females (n=23)		Males (n=255)	
	Yes % (n)	No % (n)	Yes % (n)	No % (n)	Yes % (n)	No % (n)	Yes % (n)	No % (n)
Whether it is due to work or things happening outside of the job, do you feel that you are under a lot of stress?	57% (21)	46% (102)	46% (102)	54% (119)	57% (13)	49% (110)	44% (10)	51% (115)
Do you feel that you are highly stressed right now?	21% (8)	79% (18)	14% (30)	86% (92)	17% (4)	83% (11)	12% (28)	88% (105)
	Females (n=38)		Males (n=221)		Females (n=23)		Males (n=255)	
	Mean	Range	Mean	Range	Mean	Range	Mean	Range
Generalized Stress and Anxiety	22.5	11-38	21.2	4-41	23.0*	10-36*	21.1*	9-37*
Work-Related Stress	19.4*	10-26*	18.0*	6-30*	19.0	11-28	18.1	6-30
Depression	10.8	1-24	9.3	0-28	12.2	1-27	10.7	0-26
Emotional Exhaustion	13.0*	1-25*	11.2*	0-28*	10.1*	1-20*	8.2*	0-26*
Depersonalization/Disengagement	14.5	2-24	15.1	0-31	14.8	5-24	14.4	2-29
Promotion Stress	18.3**	8-29**	16.4**	6-30**	Not asked			
Boldface** text indicates significant relationship between gender and respective variable (p<0.05) Boldface* indicates approaching significance (p<0.10)								

STRESS AND SECURITY LEVELS

MINIMUM, MEDIUM, AND MAXIMUM SECURITY

Of the eight facilities selected in Phase One, two were designated minimum security (NECC and MCI Shirley-Minimum). Six officers were sampled from NECC and all six participated in the study. Our data did not include specific break downs between MCI Shirley Minimum and Medium. The low number of minimum officers from security facilities limited our ability for statistical analyses that could be generalized to other minimum security level facilities. In an effort to compensate for these low numbers and strengthen the analyses, the two minimum security facilities were grouped with their respective neighboring medium security institution. Through this approach, the officers from NECC were grouped with MCI Concord and the officers from MCI Shirley-Minimum were grouped with MCI Shirley-Medium. Table 15 depicts the total number of officers sampled across the different security level classifications.

TABLE 15. OFFICERS SAMPLED ACROSS SECURITY-LEVEL CLASSIFICATIONS

Facility	Phase One		Phase Two	
	N	%	N	%
Min /Med	165	64%	123	49%
Maximum	94	36%	126	51%
Total	259	100%	249	100%

Facility	Phase One	Phase Two
	N	N
MCI-C /NECC	39	n/a
BSH	13	n/a
MCI-F	39	n/a
MCI-S	30	61
MCI-N	44	62
MCI-CJ	38	41
SBCC	56	85
Total	259	249

The two maximum-security facilities, SBCC and MCI-Cedar Junction accounted for a combined total of 94 (36%) participating officers in Phase One and 126 (51%) in Phase Two. Analyses of relationships between stress and security level indicated some distinctions in stress levels across medium and maximum-security facilities. However, these distinctions were not always significant. In Phase Two, there were no statistically significant differences between medium and maximum security level facilities and perceptions of stress.

TABLE 16: SELF-REPORTED STRESS AND PERCEPTIONS OF STRESS (PHASE ONE)

1. Whether it is due to work or things happening outside of the job, do you feel that you are under a lot of stress?							
	No		Yes				Total
	%	N	%	N			
Min/Med	54%	88	46%	76			164
Max	50%	47	50%	47			94
**Total	52%	135	48%	123			258
2. Do you feel that you are highly stressed right now?							
	No		Yes				Total
	%	N	%	N			
Min/Med	78%	72	22%	20			92
Max	68%	38	32%	18			56
**Total	74%	110	26%	38			148
3. Is the level of your stress increasing or decreasing?							
	Increasing		Decreasing		The Same		Total
	%	N	%	N	%	N	
Min/Med	36%	30	25%	21	37%	32	83
Max	35%	18	22%	11	43%	22	51
Total	36%	48	24%	32	40%	54	134
4. Thinking about all of the officers you work with, what percent of them would you say are highly stressed?							
	N	Mean	Minimum		Maximum		
<i>Min/Med</i> **	155	44.21	2		95		
Max	85	51.64	1		99		
Total	240	46.84	1		99		
**p < .05							

Table 17 presents another set of security level differences, however, in these analyses of Phase One data, differences across specific measures are assessed to better understand variations across facility types.

TABLE 17: PHASE ONE - INDIVIDUAL LEVEL STRESS BY SECURITY LEVEL

		N	Mean	Minimum	Maximum
GSA**	OVERALL	259	22.81	5	39
	Min/Med	165	22.3	5	39
	Max	94	23.72	12	39
Work Stress	OVERALL	259	20.22	12	30
	Min/Med	165	2.16	12	30
	Max	94	2.32	13	27
Emotional Exhaustion**	OVERALL	259	11.47	0	28
	Min/Med	165	10.85	0	26
	Max	94	12.56	0	28
Depression	OVERALL	259	9.48	0	28
	Min/Med	165	9.12	0	25
	Max	94	10.11	0	28
Psychosomatic Symptoms***	OVERALL	259	13.41	0	36
	Min/Med	165	12.76	0	36
	Max	94	14.54	2	35
Depersonalization/Disengagement	OVERALL	259	15.03	0	31
	Min/Med	165	14.64	0	31
	Max	94	15.72	0	28
Job Satisfaction	OVERALL	259	14.19	7	20
	Min/Med	165	14.21	7	20
	Max	94	14.15	7	20
Promotion Stress	OVERALL	259	16.66	6	30
	Min/Med	165	16.35	6	30
	Max	94	17.22	6	28
Procedural Justice promotions	OVERALL	259	16.86	7	25
	Min/Med	165	17.1	7	25
	Max	94	16.45	7	23
Administrative Support**	OVERALL	259	6.83	3	15
	Min/Med	165	7.13	3	15
	Max	94	6.3	3	13

** p<.05 *** p<.10

Table 18 below provides the results from Phase One only. *These analyses were not included for Phase Two given the instrument modification in Phase Two that removed the focus on organizational behaviors.* Of the seven scales examined, three revealed statistically significant differences in organizational level behavior between minimum/medium and maximum-security facilities (see CWB Interpersonal, COA Ever, and COA Past Month in Table 18 below).

TABLE 18: PHASE ONE - ORGANIZATIONAL BEHAVIOR BY SECURITY LEVEL

		N	Mean	Minimum	Maximum
OCB Organizational	OVERALL	259	27.77	7	54
	Min/Med	165	28.17	7	54
	Max	94	27.06	7	54
OCB Individual	OVERALL	259	30.18	11	45
	Min/Med	165	30.32	15	44
	Max	94	29.94	11	45
<i>CWB Interpersonal**</i>	OVERALL	259	5.98	0	25
	Min/Med	165	5.45	0	25
	Max	94	6.9	0	22
CWB Organizational	OVERALL	259	5.87	0	27
	Min/Med	165	5.73	0	27
	Max	94	6.11	0	21
Org Commitment	OVERALL	259	18.07	7	25
	Min/Med	165	18.22	7	25
	Max	94	17.8	8	25
<i>COA Ever**</i>	OVERALL	259	3.17	0	6
	Min/Med	165	3.01	0	6
	Max	94	3.44	0	6
<i>COA Past month**</i>	OVERALL	259	1.79	0	6
	Min/Med	165	1.65	0	6
	Max	94	2.03	0	6

** p<.05 **** p<.10

The strongest relationships were observed between the different types of stress (GSA and WS) and psychological effects (particularly emotional exhaustion and depression). Officers working in maximum security facilities exhibited higher levels of GSA and Emotional Exhaustion, but similar levels of work stress and depression.

It is perhaps worth noting that, although the results did not reach significance, officers at Souza Baranowski Correctional Center (SBCC) reported some of the highest stress scores in the department across both phases of the study. Officers from SBCC reported the highest averages of GSA, Emotional Exhaustion, Depression, and Promotion-Related Stress. Relatedly, SBCC officers also reported the lowest averages when it came to job satisfaction and procedural fairness in promotions.

TENURE AND SECURITY LEVEL

Preliminary analyses in Phase One revealed that the stress index could not be constructed and therefore would not be an appropriate tool for guiding the sample selection in Phase Two. At the direction of the Arizona State University research team, which had conducted early analyses of Phase One data, we selected officers randomly from four groups based on security level and tenure in Phase Two. Security-level of each facility was dichotomized into maximum security and all others (e.g. Min/Med). Tenure was based on the number of years of employment with the Department of Correction. Officers with less than 7 years of employment were classified as low tenure and officers with 7 or more years of employment were classified as high tenure prior to random selection (Table 19).

TABLE 19: PHASE TWO – TENURE & SECURITY

	Phase One		Phase Two	
	Frequency	Percent	Frequency	Percent
Low Tenure, Min/Med Security	76	29%	56	23%
High Tenure, Min/Med Security	89	34%	67	27%
Low Tenure, Max Security	34	13%	62	25%
High Tenure, Max Security	60	23%	64	26%
Total	259	99%	249	100%

The correlation matrix in Table 20 below shows key correlations between variables in Phase One and Phase Two. Perhaps not surprisingly Generalized Stress and Anxiety (GSA) and Work Stress (WS) were significantly positively correlated with one another suggesting that many experience elevated levels of generalized stress and work stress simultaneously. The strongest correlations were between GSA and Emotional Exhaustion and between GSA and Depression. Work Stress (WS) was also significantly correlated with Depression and Emotional Exhaustion but those correlations were not quite as strong.

TABLE 20: PHASE ONE AND PHASE TWO – CORRELATION MATRIX

Phase One Phase Two	1	2	3	4	5	6	7	8	9	10
1. Max. Security	-									
2. Tenure	0.02 -0.12	-								
3. Under A Lot of Stress	0.04 0.02	-0.10 0.02	-							
4. Highly Stressed	0.10 -0.05	0.01 -0.08	0.44*** 0.36***	-						
5. Generalized Stress & Anxiety	0.10 -0.04	-0.10 -0.01	0.53*** 0.45***	0.48*** 0.42***	-					
6. Work-Related Stress	0.02 -0.01	-0.09 -0.08	0.50*** 0.52***	0.34*** 0.30***	0.49*** 0.61***	-				
7. Depression	0.09 -0.02	-0.09 0.05	0.49*** 0.37***	0.43*** 0.35***	0.84*** 0.79***	0.48*** 0.49***	-			
8. Emotional Exhaustion	0.15** -0.09	-0.05 0.03	0.45*** 0.45***	0.43*** 0.38***	0.75*** 0.75***	0.58*** 0.65***	0.82*** 0.79***	-		
9. Depersonalization / Disengagement	0.10 -0.06	0.01 -0.00	0.21*** 0.30***	0.24*** 0.17***	0.43*** 0.46***	0.44*** 0.51***	0.46*** 0.48***	0.58*** 0.59***	-	
10. Promotion Stress	0.09 / n/a	0.03 n/a	0.12* n/a	0.14** n/a	0.19*** n/a	0.27*** n/a	0.17*** n/a	0.24*** n/a	0.18*** n/a	-

*p<0.10, **p<0.05, ***p<0.01

PREDICTING STRESS: REGRESSION RESULTS – PHASE ONE

Regression analysis is frequently used to determine how strongly a set of key variables, taken together, will predict a relevant outcome such as stress and its effects. Stepwise regression analyses were conducted on samples from both phases. In Phase One, we ran several statistical regression models that identified various factors we identified as being predictors/causes of stress. The sections below provide details and discussions on the models that reached statistical significance.

INDIVIDUAL LEVEL EFFECTS

The first set of regression models sought to identify the key variables capable of predicting generalized stress and anxiety (GSA) and work related stress (WS) among correction officers. Results of these first models indicate that:

- *Higher education predicts lower GSA*
- *Higher tenure predicts lower GSA*
- *Higher security predicts higher GSA*
- *Higher job satisfaction predicts lower GSA*
- *More promotion-related stress predicts higher GSA*
- *Higher job satisfaction predicts lower WS*
- *More promotion stress predicts higher WS*

The findings reveal that education, tenure, security, and job satisfaction are key correlates of generalized stress and anxiety (GSA). More specifically, these findings suggest that as education, tenure, and job satisfaction increases, GSA decreases. Similarly, these findings noted that working in maximum-security facilities and have more promotion related stress levels is also linked with higher GSA. As for work related stress (WS), the regression analyses revealed that having more promotion related stress is indicative of higher WS. Job satisfaction was also used in these regression analyses and revealed in the logical direction that higher job satisfaction predicts lower WS.

The second set of regression analyses sought to predict emotional and psychological effects of correctional work. Emotional exhaustion and depression were the only two variables to reach statistical significance. Results of these regression analyses revealed that:

- *Working at maximum-security facilities predicts emotional exhaustion*
- *Generalized Stress and Anxiety (GSA) predicts emotional exhaustion*
- *Work-related Stress (WRS) predicts emotional exhaustion*
- *Less education predicts depression*
- *Generalized Stress and Anxiety (GSA) predicts more depression*
- *Work-related Stress (WRS) predicts more depression*

In this second set of analyses, generalized stress and anxiety (GSA) and work stress (WS) were both found to be significant predictors of emotional exhaustion and depression. Security level was also significant, with working in maximum security facilities serving as a key predictor of emotional exhaustion. Additionally, education was also statistically significant, with less education predicting depression. Lastly, the model also found statistical significance in the relationship between inmate contact hours and depression, noting that as inmate contact increased, depression decreased.

ORGANIZATIONAL LEVEL EFFECTS

Regression results from the organizational level effects models revealed that only the models predicting Counterproductive Work Behavior – Interpersonal (CWB-I) and Counterproductive Work Behavior – Organizational (CWB-O) reached statistical significance. Specifically, the analyses found that:

- *Work-Related Stress predicts CWB-I*
- *Maximum security level predicts CWB-I*
- *Amount of reprimands predicts CWB-I*
- *Witnessing staff assaults by inmates predicts CWB-I*
- *Generalized Stress and Anxiety (GSA) predicts CWB-O*
- *Unpaid Time Off predicts CWB-O*
- *Experiencing inmate assaults predicts CWB-O*
- *Lower rank predicts CWB-O*
- *Having fewer children predicts CWB-O*

Phase Two regression results found many of the same relationships to be important.

STRESS MANAGEMENT AND HELP-SEEKING

Some of the most interesting observations in this research related to how MA DOC correctional officers perceive both stress among their colleagues and perceive the importance of stress management (or at least their willingness to pursue it).

One survey question, for example, asked for officers' perceptions of stress at their facility in comparison to the at other MA DOC facilities. This question only allowed officers three responses: stress was more of a problem, less of a problem, or about the same. Descriptive results of the overall sample do not indicate any major differences. Nearly 40 percent of the correctional officers in our sample indicated that stress levels among officers at their facilities and other facilities were probably about the same. Moreover, 23 percent found stress to be more of a problem at their facility and 35 percent indicated that stress was more of problem for officers at other facilities.

The responses in the table below indicate that stress is a major area of concern for officers working at the MA DOC. In particular, we found that MA DOC correctional officers expressed great concern about stress among the workforce of officers in the department. Nearly 90 percent of the officers sampled (88% or n=229) revealed that they were either somewhat concerned or very concerned about the impact of stress on their co-workers. Only 24 officers (9%) of the more than 250 interviewed in Phase One indicated that they were not at all concerned with stress among the officers they know and work with.

TABLE 21: CONCERN ABOUT STRESS AMONG COWORKERS

	Frequency	Percent
Concerned about Stress among Coworkers		
Not at all concerned	24	9%
Somewhat concerned	148	57%
Very concerned	81	31%

Organizational strategies for stress management are core focal points of the MA DOC, however, some of the most telling results of the study indicate that correctional officers were at best reluctant to seek help with stress management and overwhelmingly skeptical of stress management services that were offered by the MA DOC.

TABLE 22: WILLINGNESS TO SEEK HELP

	Phase One		Phase Two	
	Frequency	Percent	Frequency	Percent
Would Seek Help with Stress Management if Needed				
Not at all likely	117	45%	106	43%
Somewhat Likely	76	29%	93	37%
Very Likely	64	25%	45	18%
Would Seek Help with Stress Management – DOC Provided Service				
Not at all likely	152	59%	145	58%
Somewhat Likely	71	27%	63	25%
Very Likely	31	12%	36	15%
Would Seek Help with Stress Management - Non-DOC Provided Service				
Not at all likely	117	45%	83	33%
Somewhat Likely	76	30%	99	40%
Very Likely	64	25%	61	25%

As indicated in Table 22 above, over 45 percent of the sample (n=117) reported that they were not at all likely to seek help with stress management even if they were under a great deal of stress. Only about a quarter of the sample (25%) indicated that they were “very likely” to seek help with stress management in the event that they were under a great deal of stress, and just under 30 percent (30%) revealed that they were only “somewhat likely”.

The reluctance to stress management was even more pronounced when the analysis focused on the participation in services offered by or outside of the MA DOC. Responses here indicate that nearly 60 percent “were not all likely” to seek help with stress management if the service was offered by the DOC. The number drops to 45 percent responding “Not at all likely” when the service is offered outside of the MA DOC. Only 27 percent indicated that they were “somewhat likely” and 12% responded that they were “very likely” to consider help from a service or office offered by the MA DOC.

These findings indicate a clear reluctance to seek help when stress management is being offered by a service or office of the MA DOC. Specifically, there was clear difference in the number of officers who responded favorably to seeking help with stress management when the service or office was outside of the MA DOC. Only 12 percent stated they were “very likely” to consider help from a service or office offered by the MA DOC, whereas that figure more than doubles to nearly 25 percent of the sampled officers when the service or office was outside of the MA DOC.

CONCLUSIONS AND RECOMMENDATIONS

We have learned quite a lot through this research on correctional officer stress conducted in collaboration with the Massachusetts Department of Correction (MA DOC). Over the course of approximately two years, we interviewed more than 500 officers currently working for the Department of Correction as either Officers or Sergeants.

Relatively high-level of stress were observed among these officers and both work stress (WS) and generalized stress and anxiety (GSA) impacted emotional and social wellbeing, particularly with regard to depression and emotional exhaustion.

To summarize the findings across the two phases: Controlling for other factors administrative support, education, rank, tenure, security level, social support, job satisfaction, promotion stress all predict either generalized stress and anxiety (GSA) AND/OR work stress (WS).

Generalized Stress and Anxiety (GSA) is a significant predictor of both emotional wellbeing and of organizational behavior. Work Stress (WS) predicts emotional exhaustion but not other emotional outcomes or organizational behavior.

In other words, few significant predictors of generalized stress and work stress emerged and these two types of stress have some important effects of emotional wellbeing and on occupational behavior.

We also reported some findings related to help-seeking when acute stress is an issue for an officer. Unfortunately a reluctance to seek help was relatively pervasive. Some of the most telling results of the study indicate that correctional officers were at best reluctant to seek help with stress management of any sort and were overwhelmingly skeptical of stress management services that were offered by the MA DOC. Almost half of all officers reported that they were not at all likely to seek help with stress management even if they were under a great deal of stress and needed help. In both phases of this research (with interviews conducted in 2016 and 2017), almost 60% of all officers reported that they were not at all likely to seek help if that help was provided by a MA-DOC resource.

Officers also regularly reported frustration at the Department's perceived lack of interest in their opinions and perspectives, even though the officers seem to understand the issues and struggles of correctional personnel.

Through our work with officers, through conversations with supervisors and administrators, and through analyses of data discussed in this preliminary report, we offer the following recommendations:

1. Create a real mechanism for officers to provide feedback to the administration and to ensure that the feedback is taken into consideration as departmental policies and procedures are formulated.
2. Recognize and address the reluctance of officers to seek help even when they know they need it. Consider alternate external mechanisms for employee assistance given so few officers reported a willingness to engage with a DOC provide service.
3. Consider post rotations from high stress to lower stress functions and high stress to lower stress facilities.
4. Provide training to supervisors and administrators to identify acute stress (and distress) and make referrals for services on behalf of officers who may be experiencing acute stress.
5. Assaults on officers and exposure to violence were prevalent, but officers reported minimal debriefing following most incidents. There is a voluminous body of

research on the effects of repeated exposure to violence that can inform debriefing methods designed to ameliorate those effects.

6. Public perception seemed to be another common concern of officers. Responses to the Counterproductive Work Behavior questions suggested that officers are concerned about negative image of corrections and a poor public image. MA DOC should consider mechanisms to improve DOC public image including promoting the positive work and achievements of corrections officers as appropriate.
7. Consider implementing a more holistic wellness program in collaboration with the union and department administrators that addresses stress and officers' needs. Development of such a program should involve constructive participation from officers, administrators, union representatives, and officer families as appropriate.

Through this work, we also became aware of a perceived elevated rate of suicide among officers working for the MA DOC. As a result, we applied for our own federal grant to study correctional officer suicide and its impacts on individual and institutional wellbeing. We received that funding in 2016 and are again working collaboratively with the Massachusetts Department of Correction and the Massachusetts Corrections Officers Federated Union (MCOFU) to conduct this essential research.

APPENDIX

APPENDIX A: OCCUPATIONAL MEASURES

JOB SATISFACTION

Job satisfaction incorporates questions to help understand officers' attitudes towards everyday duties on the job and the career as a whole. Measured in both phases, examples of these five questions include: "Most days I am enthusiastic about my job" and "I like the duties I perform on my job." With responses ranging from "strongly disagree" (1) to "strongly agree" (5), the largest possible range was from 5-25.

PROCEDURAL JUSTICE: PROMOTIONS PROCESS

In conjunction with the promotion-related stress scale, we also included questions regarding stress stemming from the promotion procedure. This scale was used in both phases and included questions such as, "the criteria for promotions are unclear" and "there are adequate procedures to get my performance rating reconsidered if necessary." Responses to these six questions helped us gauge participants' attitudes towards the promotion process rather than perceived promotion-related stress. Response options ranged from "strongly disagree" (1) to "strongly agree" (5), with a total range of 6 to 30.

ADMINISTRATIVE SUPPORT

The administration support scale was implemented to better understand participant's attitudes towards the administration and its ability to support and recognize its employees. Questions in this section covered topics such as the recognition of employee accomplishments, incorporation of employee's input, and overall administrative support. More specifically, this scale (used in both phases) asked five question such as, "the administration here values my input" and "I know the administration here will stand by me if something should happen." With response options ranging from "strongly disagree" to "strongly agree" (5), the total range of responses ranged from 5 to 25.

TURNOVER INTENT

A scale measuring "Turnover Intent" was generated in both Phase One and Two to better understand the relationship between stress and choosing to leave the MA DOC. This was comprised by averaging the response values of two survey questions: (1) I have been searching for another job outside the MA DOC and (2) It is likely that I will be working for the MA DOC a year from now (this last item was reverse coded to better align with the

others). These two questions were each measured on a 5-point scale ranging from “strongly disagree” (1) to “strongly agree” (5) with a neither option nested in the middle; therefore, a higher response indicates greater turnover intent. The largest possible range of responses was 2 to 10.

EROSION OF AUTHORITY

Correctional officers have notoriously been depicted as bending the rules occasionally to entice more inmate cooperation. Therefore, a scale related to “Erosion of Authority” was generated in both phases to measure the relationship between this mindset and stress. Participants’ responses to five questions were averaged together, each of which were measured on a 5-point scale ranging from “strongly disagree” (1) to “strongly agree” (5). Some examples include: (1) An officer who overlooks some rule infractions will get more inmate cooperation in the long run; (2) By knowing when to enforce the rules and when not to, officers can make it easier on themselves in getting the job done; and (3) If an officer wrote a misconduct report for all of the rule violations that they see, then their coworkers and supervisor would think the officer could not control the inmates. Higher values are indicative of increased rule-bending, and the largest possible range is 5 to 25.

SOCIAL SUPPORT

To gain a better understanding of a final aspect of the correctional officer position, a scale measuring “Social Support” was created in both Phase One and Two. The responses to four survey questions were averaged together, including: (1) Co-workers criticize my work to others; (2) My level of stress varies depending on who the supervisor is on shift that day; (3) I feel especially stressed on the job when working overtime; and (4) Overtime negatively affects my home-life. Similar to the other aforementioned questions, these were also measured on a 5-point scale ranging from “strongly disagree” (1) to “strongly agree” (5). Due to the directions of the four questions comprising this scale, a lower value indicates increased social support. Resulting values range from 4 (very high social support) to 20 (low social support).

APPENDIX B: ORGANIZATIONAL MEASURES AND EFFECTS ON THE WORKPLACE

CORRECTIONAL INSTITUTIONS ENVIRONMENT SCALE

The short form of Rudolph Moos’ (1987) Correctional Institutions Environment Scale (CIES) was included to gain a better understanding of perceived differences in the

conditions of confinement across facilities. This questionnaire is an adapted version of Moos' standard form – “The Real Form” – of the CIES, created in 1974. “The Short Form” is highly correlated with the previously validated “Real Form,” featuring interclass correlations generally no lower than .70 (for 83 out of the 87 units). Each of these forms ask questions that, together, form into nine subscales. Revolving around three, over-arching themes – relationships, personal growth, and system maintenance – these nine dimensions include: (1) Involvement, (2) Support, (3) Expressiveness, (4) Autonomy, (5) Practical Orientation, (6) Personal Problem Orientation, (7) Order and Organization, (8) Clarity, and (9) Staff Control. Please refer to “Table 19” for explanations of the subscales, noting that the term “residents” was altered to “inmates” within the questionnaire.

ORGANIZATIONAL CITIZENSHIP BEHAVIOR (OCB): ORGANIZATIONAL

The OCB-Organizational scale aimed to measure participant's attitudes towards the correctional organization as a whole. We used a validated scale from Williams & Anderson (1991), which was previously adapted for correctional officers focusing on productive citizenship within the organization. Twelve questions such as, “looking back over the past year, how often did you express loyalty to the organization?” and “looking back over the past year, how often did you keep with developments in the organization?” sought to determine the level of a participant's relationship with the organization. Response options ranged from “never” (0) to “always (5), with a total range of 0 to 60.

ORGANIZATIONAL CITIZENSHIP BEHAVIOR (OCB): INDIVIDUAL

The OCB-Individual scale aimed to measure the productiveness of interpersonal relationships on the individual-level within the organization. This scale was also recycled from William & Anderson (1991) and previously adapted for correctional officers. The ten questions in this scale focus on the support and interactions with other individuals within the organization asking questions such as, “looking back over the past year, how often did you assist other officers with their duties?” and “looking back over the past year, how often did you tell your supervisor when things are wrong?” With responses ranging from “never” (0) to “always” (5), the largest possible range was 0-50.

COUNTERPRODUCTIVE WORK BEHAVIOR (CWB): INTERPERSONAL

The CWB-Interpersonal scale aimed to measure the amount of counterproductive work behavior taking place within the organization between co-workers. Interpersonal counterproductive work behavior can produce environments that foster high stress levels. This study used a scale from Bennett & Robinson (2000) that has been previously adapted for use with correctional officers. This scale is comprised of seven questions such as, “in

general, looking back over the past year, how often did you act rudely towards someone at work?" and "in general, looking back over the past year, how often did you publically embarrass someone at work?" Response options ranged from "never" (0) to "always" (5) with a total range of 0 to 35.

COUNTERPRODUCTIVE WORK BEHAVIOR (CWB): ORGANIZATIONAL

The CWB-Organization scale looks to measure the amount of counterproductive work behavior that each participant partook in. Also, stemming from the work of Bennett & Robinson (2000), the scale contains sixteen questions including: "looking back over the past year, how often did you spend time fantasizing or daydreaming instead of working?" and "in general, looking back over the past year, how often did you intentionally destroy inmate property?" With responses ranging from "never" (0) to "always" (5), the largest possible range was from 0 to 80.

ORGANIZATIONAL COMMITMENT - AFFECTIVE

The organizational commitment-affective scale measured the amount of participant's commitment to the organization as a whole. Comprised of six questions, each measured on a scale of "strongly disagree" (1) to "strongly agree" (5), questions include: "I feel a sense of loyalty to the MA DOC" and "I feel committed to my work here." The largest possible range of responses was 6 to 30, with higher scores indicating increased organizational commitment.

TASK PERFORMANCE

To measure the relationship between stress and officers' work-ethic, a scale measuring "Task Performance" was created; though, these questions were only included in the Phase One instrument. The responses to thirteen questions, each measured on a 5-point scale ranging from "strongly disagree" (1) to "strongly agree" (5), were averaged together. This included various aspects related to job performance, such as arriving at work late, taking unauthorized breaks, and reporting inmate abuse by other officers. The following are some specific examples of the incorporated questions: (1) I don't work as hard as might be necessary, but the job usually gets done; (2) On occasion, I will leave my shift a little early without authorization; and (3) On any given day, I spend a lot of time talking with other officers about things not related to the job. With the largest possible range being 13-65, higher values indicate weak job performance.