

# Depression and Work Family Conflict Among Corrections Officers

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**Objective:** This article assessed work-to-family conflict (W-FC) and family-to-work conflict (F-WC) and their impact on depression among corrections officers in two correctional facilities in the United States. **Methods:** The sample consisted of 220 officers who completed questionnaires that included data on demographics, sense of coherence (SOC), physical health, psychosocial job characteristics, and work-family conflict. The Center for Epidemiologic Studies Depression Scale (CES-D-10) assessed depression. **Results:** The mean CES-D score was 7.8 (SD = 5.2); 31% had scores of 10 or more, indicative of serious psychological distress. The SOC, W-FC, and F-WC were significantly and positively associated with depression; W-FC mediated the effects of SOC on depression. Psychosocial job characteristics were not related to depression. **Conclusions:** Depressive symptoms were high among officers, and W-FC was a critical factor contributing to psychological distress.

Correctional work is associated with high rates of psychological distress<sup>1,2</sup> as officers are confronted with many types of stressors, including physical danger,<sup>3</sup> supervisory versus line officer tensions, underutilization of knowledge and skill, high workload, lack of autonomy, and demanding social contacts.<sup>4</sup> Another major contributor to stress for corrections officers is the difficulty of managing family and work demands. While there is a long history of studies investigating work-family role conflict, relatively few studies have assessed work-family conflict (W-FC) among corrections officers and the adverse outcomes, such as depressive symptoms, associated with W-FC. The purpose of this article is to investigate the experience of corrections officers with W-FC; assess its effect on psychological distress measured as depressive symptoms; and to investigate psychological, physical, and workplace factors contributing to W-FC and depression.

## LITERATURE REVIEW

### Work-Family Conflict

There is a substantial literature on work-family role conflict dating to early articles by Kahn and Perlin,<sup>5</sup> Kanter,<sup>6</sup> and others, who first addressed conflict between work roles and family roles. An early review of the W-FC literature defines W-FC as "a form of inter-role conflict in which role pressures from the work and family domains are mutually incompatible in some respect."<sup>7</sup> Broader social forces have contributed to the rise in interest in W-FC and include the radical changes in work and family responsibilities in many industrialized countries.<sup>8</sup> These changes are characterized by the increase in the

dual-earner families and increased work demands.<sup>9</sup> In addition, the rapid advances in technology have changed the way work is done, which has had an impact on how work affects family dynamics.

More recently, Frone and colleagues<sup>10-12</sup> have expanded the W-FC concept to include two separate dimensions. *Work-to-family conflict* is a term used to identify the discrepancy created when demands at work negatively affect family functioning; F-WC is used to identify the reverse relationship. A substantial literature characterizes factors contributing to W-FC and the serious impacts of W-FC on the individual, the family, and the employer.<sup>10-12</sup>

Research on the antecedents of W-FC shows that factors associated with W-FC include work-related factors, such as negative working environment and low job satisfaction; personality characteristics; and situational factors such as family size, lengthy commutes to work, and long working hours.<sup>13</sup> The W-FC impacts include an adverse impact on job satisfaction, job turnover, job performance, and organizational commitment.<sup>14-17</sup> Non-work-related impacts include reduced life and marital and leisure satisfaction.<sup>18-20</sup> Psychological distress associated with W-FC includes depression, substance abuse, burnout, psychological strain, and somatic physical symptoms.<sup>10,21-23</sup> The association with depression tends to be stronger for F-WC than W-FC.<sup>24-26</sup>

Bellavia and Frone<sup>12</sup> present several models to investigate the association between W-FC and adverse outcomes and suggest that W-FC and F-WC are related and may have reciprocal effects. Furthermore, W-FC has been shown to mediate the effects of individual, family, and workplace factors on outcomes in the general literature.<sup>13,27</sup>

### Work-Family Conflicts Among Corrections Officers

Although there are fewer studies that address W-FC among corrections officers, several have documented the high prevalence of W-FC in this group and factors that influence W-FC. In a study of staff in a Midwestern correctional institution, corrections officers reported significant W-FC and F-WC, although W-FC appeared to be more common than F-WC. In their 2006 publication, Lambert et al<sup>28</sup> divided W-FC into strain, time, and behavioral components. The W-FC strain as defined by the authors, but not time pressures and behavioral strain, were predictive of work stress. The findings contradict some of the conclusions of Tripplet et al<sup>29</sup> and the authors' own earlier work, underlining potential ambiguities in results based on established psychometric surveys. Conflicting or ambiguous results for substituted dependent and independent variables are other problems affecting the W-FC literature in corrections. For example, Lambert et al<sup>30-32</sup> found no relationship between family on work conflict, perceived job danger, and distributive justice when applied to "affective commitment." In an examination of the effects of several psychometrically survey-determined indicators of stress (role conflict, role ambiguity, supervisor support, F-WC, and W-FC) on organizational commitment among corrections officers, work-on-family, but not family-on-work, conflict was associated with organizational commitment.<sup>33</sup>

In a parallel study, taking work on family conflict as the dependent variable in their analysis, Lambert and Hogan<sup>34</sup> reported greater W-FC among officers compared with support staff and strong

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associations with support and sense of fairness. The results were similar to those reported in their 2002 study, where job satisfaction was associated with measures of work on family conflict and with role ambiguity but not with family-on-work conflict.<sup>35</sup>

Looking at more quantifiable outcomes, the higher absenteeism rates in female corrections personnel have been anecdotally associated with the weight of caregiver responsibilities, although an association with family status and number of dependents appears to be lacking.<sup>36</sup>

The modest literature on corrections and W-FC appears even more notable among the non-officer staff. Garland et al<sup>37</sup> observed that their study of W-FC in prison support personnel was the first of its type.

Strain model of Karasek et al<sup>38</sup> would be an appropriate conceptual framework to assess common characteristics of corrections work, such as low decision latitude and low job authority, which is known to be associated with stress. A study of corrections officers conducted in Australia<sup>39</sup> found that low levels of support and low levels of control were significantly associated with lower levels of job satisfaction and higher levels of physical ill-health symptoms. Information on work-environment factors such as the presence or absence of support in the workplace from coworkers and supervisors will also help to provide a more robust explanation of W-FC among correctional officers.

The purpose of this article is to assess levels of both dimensions of W-FC among corrections officers in two correctional facilities in the Northeastern United States; to identify individual characteristics, beliefs, and work-related factors contributing to W-FC; and to assess the effects of W-FC on depressive symptoms. Our conceptual model presented in Fig. 1 draws on the work of Bellavia and Frone<sup>12</sup> and Frone and colleagues,<sup>24</sup> who proposed that W-FC is two dimensional and that this conflict mediates beliefs and attitudes as well as work characteristics identified by Demand/Control/Support model by Karasek et al<sup>38</sup> as influencing psychosocial outcomes at work. We make certain assumptions about the direction of the associations in a conceptual model described later. There is a focus on depressive symptoms because of the numerous reports in the literature of high levels of distress and mental health problems among corrections officers.<sup>40,41</sup> Furthermore, we regard depression as an outcome variable associated with beliefs about the ability to manage stressful situations, a psychological construct defined as sense of coherence (SOC).<sup>9,42,43</sup> The SOC is a dispositional orientation that measures the extent to which one has a feeling of confidence that things will work out as reasonably as expected. The SOC is a measure of how an individual assesses or handles stressors or stressful experiences. Our model assumes that SOC precedes and influences W-FC. We propose that SOC influences depressive symptoms, as well, but its effects are mediated by W-FC. We further hypothesize that demographic characteristics, general health status, and job characteristics will be associated with depression. Although the ordering of the variables may appear arbitrary, the proposed model that guides the analysis provides a structural approach to these complex

interrelationships and will guide future studies. These issues will be considered further in the Discussion section.

### CONCEPTUAL MODEL

Figure 1 presents the conceptual model of the relationships between demographic characteristics; psychological, physical health status, and work characteristics; F-WC; W-FC; and depressive symptoms. The literature suggests that demographic characteristics, psychological attributes, physical health status, and work environment are related to W-FC and F-WC<sup>8,44,45</sup> and should be adjusted for the analyses. We hypothesize that W-FC and F-WC mediate the relationships between demographic characteristics, psychological and physical attributes, work environment, and depression

The demographic domain includes the following variables: age; educational attainment; ethnicity; gender; marital status; home ownership; and income. We adjust for demographic characteristics to control for their confounding effects on depressive symptoms. The psychological domain includes indicators of psychosocial disposition such as SOC. The SOC is considered a component of the generalized resistance resources, which are resources that are effective in combating different types of stressors. The SOC plays an important role in determining psychological adaptation and well-being,<sup>46</sup> and it is a product of character and environment. Those having a low SOC are expected to have higher depressive symptoms. We also suggest that the effects of SOC are mediated by W-FC and F-WC; that is, low SOC leads to higher levels of W-FC, which in turn, negatively influences depression.

We examine two other relevant domains: psychosocial work environment and physical health. Assessment of the work environment is based on the Demand/Control/Support model of Karasek et al.<sup>38</sup> This model has been used extensively to explain cardiovascular disease prevalence, psychological outcomes, and effects on the immune system (<http://www.workhealth.org>). We propose that high demands and low control, conceptualized as job strain, will be positively associated with depression. The Job Content Questionnaire (JCQ) is the instrument that is used to operationalize this construct.

We also include a measure of physical health to control for the known effects of acute and chronic health conditions on depressive symptoms—the Physical Component Summary Score from the Short Form-12 (SF-12 PCS). We did not include the component of the SF-12 that measures mental health, the SF-12 Mental Component Summary Score (SF-12 MCS), because we expected the SF-12 MCS to be highly correlated with the Center for Epidemiologic Studies Depression Scale (CES-D).

### METHODS

#### Survey Methodology

We recruited corrections officers employed at two state prisons in the Northeastern United States. The two study sites were components of a multiyear research to practice intervention, entitled Health Improvement Through Training and Employee Control (HITEC). Health Improvement Through Training and Employee Control is a research activity sponsored by the Center for Health Promotion in the New England Workplace, a National Institute for Occupational Safety and Health-funded WorkLife Center of Excellence. The two correctional institutions were selected based on the criteria that took into consideration inmate population size, security level, age and size of the facility and staff, and responses of supervisor staff to an organizational readiness survey. The security level of facility A is a level-four, high-security facility, based on a five-point scale. Facility B is a medium-/high-security facility with a rating of three to four. Both facilities house approximately 1500 inmates and have approximately 400 correctional officers on staff.

Several methods were used to recruit the study participants. Union officials both on the local and state level explained the study

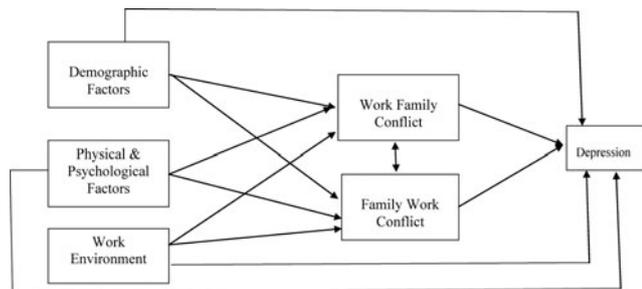


FIGURE 1. Conceptual model.

to the officers and encouraged their participation. In addition, there were roll call announcements and flyers within each facility. Study staff also went to the facilities and spoke to officers in the lunch/break room. The study team worked with the wardens at each facility to facilitate release time for the officers to complete the survey and physical exam. To ensure the officers that their data were confidential and secure, only study staff were present during survey administration and physical testing.

All staff in each facility were invited, but not required, to participate in the study. Recruitment procedures included roll call announcements, posters, flyers, and word of mouth. Prison administration provided back-up staff to temporarily free participants from security-sensitive work obligations. The article questionnaire was self-administered but completed in a private space, with a member of the study team always present. There were arrangements to accommodate questionnaire completion during each of the three work shifts. Baseline cross-sectional data were the source of the following analyses.

The University of Connecticut Health Center institutional review board approved consents and recruitment materials as well as accompanying test protocols and surveys.

## MEASURES

### Sociodemographic Characteristics

Age was self-reported and was coded in years. Race was coded as white and other, since there were very small numbers of the other census categories. Marital status was recoded into three categories: married/living with a partner; widowed/divorced/separated; and single. Educational level was grouped into three categories: high school graduate or less; some college; and college degree and graduate education. Home ownership was a single item asking whether the respondent owned the home in which he/she currently lived. Income was assessed in 4 groups: \$25,000 to 49,999; \$50,000 to 74,999; \$75,000 to 99,999; and more than \$100,000.

### Short Form-12 Physical Component Summary Score

The SF-12 PCS was used to adjust for general health status to control for confounding by chronic health conditions. The SF-12 questionnaire measures quality of health on eight scales: physical functioning; physical role; bodily pain; general health; vitality; social functioning; emotional role; and mental health. A composite score from the PCS items is summed and transformed into a scale ranging from 0 (worst) to 100 (best), with a score of 50 being average health.<sup>47</sup>

### Sense of Coherence Scale

The SOC was assessed with a three-item scale.<sup>48</sup> Respondents were asked to indicate how frequently they do the following: (a) see a solution to problems and difficulties that others find hopeless; (b) find what happens to them in their daily life is difficult to understand; and (c) see their daily life as a source of personal satisfaction. Options ranged from one to five, with one representing never and five representing most of the time. The second question was reverse coded. These three questions capture the different dimensions in the SOC, namely manageability, comprehensibility, and meaningfulness. Additive scores ranged from 3 to 15. Cronbach  $\alpha$  was 0.48.

### Job Content Questionnaire Scale

The JCQ is an instrument designed to measure the psychological and social structure and content of work tasks. Response options range from one (strongly disagree) to four (strongly agree). The survey version in the HITEC study included 28 questions (the full "Framingham Version" plus items on coworker and supervisor support) and provided the basic subscales: coworker support; supervisor support; decision latitude (combined skill discretion and

decision authority); and psychological job demands. In this article, these subscales were used as individual independent variables under the work-environment domain. In addition, a job strain variable was created by the quotient method: scores on the psychological job demands subscale were divided by the scores on the decision latitude subscale. Cronbach  $\alpha$  was 0.78 for the JCQ items.

### The Work-Family Scales

We used the four-item measure developed by Frone et al.<sup>10</sup> Each item used a four-point response scale as follows: never; sometimes; often; and always. The W-FC was assessed by using a two-item scale. Questions asked include: How often do things going on at work make you feel tense and irritable at home? How often do the demands of your job interfere with your family life? The F-WC was also measured by using a two-item scale. The questions asked were: How often do things going on at home make you feel tense and irritable on the job? How often do the demands of your family interfere with your work on the job?

The four items that measure W-FC and F-WC were subjected to a factor analysis to test whether they truly measured two distinct constructs. Factor analysis used the principal axis extraction method with a Varimax rotation. To test for dimensionality, the Kaiser criterion of eigenvalues more than 1 was first used. The Kaiser criterion indicated a one-factor solution that accounted for 55% of the variance in the measure. A second eigenvalue approached 1 (0.934); on examination of the screeplot, and using the elbow criterion, we decided to force a two-factor solution. The two-factor solution accounted for an additional 23% of the variance and resulted in a factor structure, with the W-FC and F-WC items loading on separate factors. Based on the loadings, and the additional variance accounted for, we decided to retain W-FC and F-WC as separate constructs. Mean scores were calculated for each scale. Alpha for W-FC was 0.74 and for F-WC was 0.73 in this sample.

### Depressive Symptoms

Depressive symptoms were assessed by using the 10-item (short form) CES-D.<sup>49</sup> This version is one of several short forms of the CES-D that have good accuracy and perform similar to the full 20-item CES-D.<sup>50</sup> This scale assessed the frequency of depressive symptoms experienced during the last week by using a four-point response scale (all of the time, occasionally, some or a little of the time, rarely or none of the time). These options were scored by a weighted system ranging from zero to three. The depression score is the sum of 10 item weights. A score of 10 and greater is considered high and within the threshold of clinical depression. Cronbach  $\alpha$  equals 0.81 for this sample.

### Data Analysis

Data cleaning and normalization procedures were performed initially, followed by descriptive analysis. Pearson correlation was conducted to assess the bivariate associations between all the continuous independent variables and the dependent variable, respectively. Hierarchical multivariate regression analysis was conducted, guided by the conceptual model in Fig. 1. In block I, demographic variables were included as a block of independent variables, the SF-12 PCS was added in block II, SOC at the third block, decision latitude and psychological demands together in the fourth block, social support in block five, tenure and facility as a block and W-FC and F-WC in the final block. This process allowed for the examination of the impact of groups of independent variables on the dependent variable and previous blocks of variables. Hierarchical techniques were used to investigate the mediating effect of W-FC.

### Mediation Analysis

Criteria commonly used to determine whether a variable mediates the association between two variables are as follows: (1) the

independent variable in question is significantly associated with the mediator; (2) the independent variable is significantly associated with the dependent variable in the absence of the mediator; (3) the mediator is significantly associated with the dependent variable; and (4) the main effect of the independent variable on the dependent variable is reduced when the mediator is added to the model.<sup>51</sup> The Sobel test was used to test whether W-FC and F-WC mediated the relationship between independent variables and depression. The Sobel test<sup>52</sup> is one of the tests used for mediation analysis and is computed as follows:

$$\sqrt{as_b^2 + bs_a^2}; Z \text{ score} = ab/s_{ab}$$

Where, *a* is raw unstandardized regression coefficient for independent variable and dependent variable; *b* is raw unstandardized regression coefficient for the association between the independent variable, mediator, and dependent variable; *s<sub>a</sub>* is the standard error of *a*; and *s<sub>b</sub>* is the standard error of *b*. The null hypothesis that indirect effect occurred by chance is rejected if the *Z* score is greater than ± 1.96.

## RESULTS

### Description of the Sample

The total sample size was 220 and only included corrections officers; lieutenants, wardens, and other correctional staff were not included in this sample. Table 1 presents the descriptive characteristics of the sample, mean (SD) CES-D scores, the means and SDs of the continuous independent variables (SOC, SF-12, JCQ, and W-FC), and the correlations coefficients of the continuous variables with CES-D. The overall mean score for CES-D in the population was 7.8 (SD = 5.2). Approximately one third (31%) had scores of 10 or more, an indication of the presence of significant depressive symptoms.

The majority (83.9%) were men, and average age was 40.2 years (SD = 7.2). The population was ethnically diverse; however, the majority (76.4%) were white. Approximately 20% had a college degree. Seventy percent were married or living with a partner. More than 80% owned their own homes. Income was relatively high, with more than 50% earning more than \$75,000 per year. There was an even split between the two facilities, and the mean years of employment were 12.2 (SD = 7.8). The only significant differences were related to education level: those with only a high school education had higher depression scores than those with a college education.

The mean SOC score for this population was 10.9 (SD = 2.1) of a possible 15. The participants had relatively high scores on this measure of SOC. The mean SF-12 PCS score was 51.0 (SD = 6.9) similar to the average score for the general US population. The score for decision latitude was 31.6 (SD = 7.0); it was 27.2 (SD = 5.3) for psychological demands. The mean score for W-FC was 1.9 (SD = 0.70); it was 1.6 (SD = 0.57) for F-WC, indicating that most participants experienced W-FC, although W-FC was more common. Pearson correlation analysis revealed that depression was significantly associated with several of the independent variables. As expected, depression was negatively associated with SOC (*r* = -0.48). This relationship was one of the stronger associations with depression. The SF-12 PCS was significantly and negatively correlated with depression (*r* = -0.17). The JCQ subscales were not as strongly associated with the CES-D as were the SOC or the W-FC scales (*r* = 0.55 for W-FC and 0.41 for F-WC).

### MULTIVARIATE REGRESSION ANALYSIS

Hierarchical multiple regression was carried out, building models to explain variance in three dependent variables: W-FC; F-WC; and depression, respectively. We first analyzed W-FC and F-WC as the dependent measures and then analyzed depression as

**TABLE 1.** Mean (SD) Center for Epidemiologic Studies Depression Scale Scores and Descriptive Characteristics of the Sample

Variables	Total	%	Depression—CES-D, mean (SD)
CES-D > 10	68	31	7.8 (5.2)
Gender ( <i>n</i> = 218)			
Male	183	83.9	7.7 (5.0)
Female	35	16.1	8.5 (6.2)
Age, yr ( <i>n</i> = 213)			40.2 (7.2)
<35	41	19.2	6.3 (3.9)
35–39	66	31.0	8.0 (5.2)
40–44	54	25.3	7.6 (5.0)
45–49	34	16.0	9.3 (6.3)
50+	18	8.5	8.2 (5.9)
Race ( <i>n</i> = 203)			
White	155	76.4	7.4 (5.3)
Other	48	23.6	8.4 (5.1)
Education* ( <i>n</i> = 219)			
High school	88	40.2	8.5 (5.4)
Some college	89	40.6	7.7 (5.3)
College degree	42	19.2	6.3 (4.6)
Marital status ( <i>n</i> = 216)			
Married/live with partner	153	70.8	7.6 (5.2)
Widowed/divorced	24	11.1	8.2 (5.4)
Single/never married	39	18.1	8.2 (5.2)
Home ownership ( <i>n</i> = 213)			
Yes	175	82.2	7.9 (5.3)
No	38	17.8	7.3 (5.0)
Income ( <i>n</i> = 215)			
\$25,000–49,999	14	6.5	8.5 (4.9)
\$50,000–74,999	73	34.0	8.8 (5.9)
\$75,000–99,999	63	29.3	6.9 (4.6)
>\$100,000	65	30.2	7.3 (5.0)
Years employed			12.1 (7.8)
0–5	35	16.4	1.6 (3.5)
6–10	46	34.0	8.1 (5.0)
11–15	75	29.3	8.4 (5.8)
16+	56	30.2	7.9 (5.3)
Facility			
A	102	46.8	7.7 (4.9)
B	116	53.2	7.8 (5.1)
Continuous Variables	Mean (SD)	Pearson <i>r</i> with CES-D	
Sense of coherence	10.9 (2.1)	-0.48**	
SF-12 PCS	51.0 (6.9)	-0.17*	
Job Content Questionnaire			
Psychological job demands	27.2 (5.3)	0.16*	
Decision latitude	61.2 (10.8)	-0.21	
Coworker support	10.8 (1.9)	-0.21**	
Supervisor support	10.4 (2.6)	-0.29**	
Job strain (job demands/decision latitude)	0.46 (0.11)	0.18*	
Work–family conflict	1.9 (0.70)	0.55**	
Family–work conflict	1.6 (0.57)	0.41**	

CES-D, Center for Epidemiologic Studies Depression Scale; SF-12 PCS, Physical Component Summary Score from the Short Form-12.  
\**P* < 0.05; \*\**P* < 0.01.

**TABLE 2.** Multivariate Regression Analysis of Demographic, Psychosocial, Physical, and Work Structure Factors with Work–Family Conflict and Family–Work Conflict as the Dependent Measures—Final Block

Variables	W-FC Dependent— Final Block	F-WC Dependent—Final Block
White	0.022	0.052
Married	−0.105	0.091
Education	−0.077	−0.051
Gender	−0.039	0.028
Homeowner	0.099	−0.177**
Income	−0.135*	0.107
Age	0.053	0.012
SF-12 PCS	0.096	−0.095
Sense of coherence	−0.196	−0.207**
JCQ		
Decision latitude	−0.61	0.047
Psychological demands	0.141*	−0.001
Coworker support	−0.020	−0.071
Supervisor support	−0.251**	0.150
Facility	−0.28	−0.029
Number of years employed	−0.080	0.018
F-WC	0.313***	—
W-FC	—	0.381***
Adjusted R <sup>2</sup>	0.394	0.256
F (df)	7.73 (17;202)***	4.37 (16;203)***

F-WC, family–work conflict; JCQ, Job Content Questionnaire; SF-12 PCS, Physical Component Summary Score from the Short Form-12; W-FC, work–family conflict.

\* $P < 0.05$ ; \*\* $P < 0.01$ ; \*\*\* $P < 0.001$ .

the dependent measure, with the W-FC measures entered as an independent measure.

### Work–Family Conflict

Results from the multivariate regression analysis with W-FC as the dependent measure and demographic, psychosocial, and work structure factors as the independent variables are presented in Table 2, showing the final block. The SOC was significantly and positively associated with W-FC and was significant in all blocks of the analyses (blocks not shown). Job strain was not significant, and the only JCQ scale that was significantly related to W-FC was supervisor support. The F-WC had a significant positive association with W-FC. Total adjusted  $R^2$  was 0.394;  $F = 7.73$  (17;202);  $P < 0.001$ .

### Family–Work Conflict

Results from the multivariate regression with F-WC as the dependent measure and demographic, psychosocial, and work structure factors as the independent variables are presented in Table 2, showing the final block. The SOC was significantly and negatively associated with F-WC. As in the W-FC model, SOC remained significantly associated with F-WC at each block. Neither the JCQ subscales nor strain were significantly related to F-WC scores. Finally, those with high W-FC also had higher F-WC. Total adjusted  $R^2$  was 0.256 ( $F = 4.37$  (16;203);  $P < 0.001$ ), somewhat lower than that for W-FC.

### Depression

Results from of the analyses with CES-D as the dependent measure and demographic, psychosocial, work structure factors and

W-FC as the independent variables are presented in Table 3. In block I, none of the demographic characteristics was significantly associated with depression. In block II, SF-12 PCS was significant and positively associated with CES-D, showing that poorer physical health was associated with increased depressive symptoms. In block III, the effects of age became significant but SF-12 was no longer significant. As age increased, depressive symptoms increased. The SOC was significantly and positively associated with CES-D scores. In block IV, only psychological demand was significantly associated with the CES-D, but when supervisor support was entered in block V, demands was no longer significant, although greater supervisor support was significantly associated with lower CES-D scores. Strain was added to the regression but was not significant. Strain was not included in subsequent blocks because of collinearity with decision latitude and psychological demands. Number of years employed and facility were entered next and were not significant. In the last block, age, SOC, F-WC, and W-FC remained as significant entries; W-FC was more strongly associated with depression than F-WC, as indicated by a larger  $\beta$  coefficient. Total adjusted  $R^2$  was 0.443 ( $P < 0.001$ ).

### Mediation Analysis

The Sobel test of mediation was performed to examine whether W-FC and F-WC mediated the relationships between depression and SOC. The mediation analysis showed that both W-FC ( $Z$  score =  $-4.59$ ;  $P < 0.001$ ) and F-WC ( $Z$  score =  $-3.26$ ;  $P < 0.01$ ) mediated the effects of SOC on depression. However, SOC also had direct positive associations with depression, independent of either dimension of W-FC.

## DISCUSSION

Our major goal in this article was to examine the relationship between W-FC and F-WC and depressive symptoms in corrections officers. We assumed that W-FC was the more immediate or proximal stressor, explaining depressive symptoms. We further assumed that SOC reflected a more distal set of beliefs that both directly influenced depression and indirectly influenced depressive symptoms via perceived W-FC. Thus, we also sought to determine whether W-FC mediated the relationship between these independent variables and depressive symptoms.

Our participants had moderate levels of depressive symptoms, with mean scores of 7.8 ( $SD = 5.2$ ), although a surprisingly high percentage of officers (31%) had scores greater than or equal to 10, a cutoff for serious psychological distress. Community studies of healthy adults generally find that 16–19% of the samples have scores over the depression threshold, using the 20-item CES-D.

Scores on the JCQ subscales were similar to those reported by Karasek et al<sup>38</sup> in a review of six international studies consisting of more than 16,000 workers, although collectively, all the JCQ subscales scores in this population were lower than the national norms developed from the Quality of Employment Surveys.<sup>53</sup> Contrary to our predictions, neither demographic characteristics nor the JCQ subscales were significantly related to depressive symptoms in the multivariate analyses. Thus, factors other than psychosocial work characteristics seem to be more important in influencing depressive symptoms in this population. On the contrary, this is a group with an apparent high rate of depression and with provocative work conditions that we would expect to be predictive of psychological distress. One possibility is that the JCQ may not be sensitive to the workplace factor most important for this occupation. Other aspects of being corrections officers, such as safety concerns, may override the importance of control or support in depression.

Both W-FC and F-WC were commonly reported by the officers. Average scores were 1.9 and 1.6, respectively, indicating that officers experienced W-FC on average “sometimes” or “frequently”.

**TABLE 3.** Multivariate Regression Analysis of Demographic, Psychosocial, Physical, Work Structure Factors and Family–Work Conflict with Center for Epidemiologic Studies Depression Scale as the Dependent Measure

	Block I	Block II	Block III	Block IV	Block V	Block VI	Block VII	β
White	-0.078	-0.08	-0.070	-0.025	-0.056	-0.065	-0.090	-0.090
Marital status	-0.025	-0.012	-0.058	-0.066	-0.064	-0.065	-0.049	-0.049
Education	-0.100	-0.096	-0.047	-0.042	-0.042	-0.053	-0.005	-0.005
Gender	-0.007	-0.002	0.071	0.074	0.056	0.060	0.068	0.068
Home owner	0.100	0.094	0.073	0.068	0.052	0.058	0.071	0.071
Income	-0.103	-0.116	-0.016	-0.017	-0.009	0.005	0.028	0.028
Age	0.133	0.116	0.159*	0.136*	0.129*	0.142*	0.116*	0.116*
		SF-12 PCS	-0.137*	-0.036	-0.017	-0.018	-0.029	-0.029
			SOC	-0.4540***	-0.436***	-0.433***	-0.228***	-0.228***
			JCQ					
			Decision latitude	-0.079	0.017	0.012	0.023	0.023
			Psychological demands	0.128*	0.082	0.087	0.029	0.029
			Coworker support	-0.064	-0.064	-0.075	-0.045	-0.045
			Supervisor Support	-0.157*	-0.157*	-0.152	-0.094	-0.094
			Facility				0.014	0.014
			Years employed				-0.032	-0.032
							W-FC	0.299***
							F-WC	0.178**
Adjusted R <sup>2</sup>	0.035	0.049	0.25	0.261	0.285	0.276	0.443	0.443
R <sup>2</sup> change	0.066*	0.018*	0.197***	0.017	0.029*	0.033	0.117***	0.117***

F-WC, family–work conflict; JCQ, Job Content Questionnaire; SF-12 PCS, Physical Component Summary Score from the Short Form-12; SOC, sense of coherence; W-FC, work–family conflict. \*P < 0.05; \*\*P < 0.01; \*\*\*P < 0.001.

The W-FC seems to be higher than F-WC, which is consistent with other studies of corrections officer.

The multivariate analysis of W-FC revealed that income, SOC, social support, and F-WC were the most important factors explaining W-FC. In contrast, home ownership, SOC, and W-FC were most important in F-WC. The finding in this study that only one psychosocial job variable emerged as significant in W-FC is noteworthy and raises further questions about the impact of psychosocial job characteristics on W-FC. It appears that the dimensions of correctional work that we assessed were not reported as a determinant of W-FC among study respondents. It seems that it is the psychological capacity (SOC) of the individual that has the most impact on corrections officers' perceptions of W-FC.

Regarding the association between W-FC, F-WC, and depression, results from these analyses showed that W-FC and F-WC were strongly and positively associated with depression. This finding adds to existing literature, affirming that W-FC and F-WC are associated with psychological outcomes.<sup>54</sup> The association with depressive symptoms was stronger for W-FC than for F-WC, as shown by a larger standardized regression coefficient for W-FC. Other studies have shown that F-WC is a stronger predictor of psychological distress than W-FC.

The mediation analysis conducted with the Sobel test showed that the relationship between SOC and depression was partially mediated by W-FC and F-WC. The results indicate that the extent of one's feeling of confidence that things will work out as reasonably as expected or one's ability to handle stress reduces the perceived W-FC or F-WC, which subsequently impacts depression.

### IMPLICATIONS OF FINDINGS

The findings have several implications for the conceptualization of work-related stress and its impact on corrections officers as well as worksite stress-reduction interventions in correctional settings. Our hypothesis about the association between job-related characteristics and psychological distress was grounded on the recurrent finding, particularly among other populations, that job-related stress is directly linked to poor psychological outcomes. The fact that job characteristics did not influence depressive symptoms as expected suggests that the application of the widely used JCQ subscales may not be appropriate for this occupation. A study conducted in Australia<sup>39</sup> supported the existence of the Control/Demands/Support model among correctional workers, but the authors used the Work Environment Scale specifically relevant to the Demand, Control/Support framework.<sup>55</sup> They found that low levels of support and low levels of control were significantly associated with lower levels of job satisfaction and higher levels of physical ill-health symptoms. They did not assess depression as an outcome. While the JCQ has been used throughout the world to characterize job-related experiences and provide insight on the psychological and practical aspects of jobs, its use in the correctional settings has been less common. It is possible that the items and scales in the JCQ do not capture the multidimensional and psychologically demanding nature of correctional work and hence its inability to predict depression in this group.

Another possible explanation for the observed lack of association between job characteristics and depression among corrections officers is that job-related stress is indeed ubiquitous in correctional settings and that SOC is a stronger predictor of depression than job characteristics. The SOC, although identified here as a psychological construct, is also a personality construct and indicates individual ability to expect good outcomes and work toward achieving positive outcomes. The fact that SOC was a stronger predictor than JCQ scales of depression and even W-FC speaks to the role of individual perception and conditioning in a stressful environment. It is possible that corrections officers have conditioned themselves to their stressful jobs and consequently the stressful environment no

longer impacts their lives as expected. It is also possible that in a setting of high uniform demand and stress, component characteristics of work are repressed. High levels of coping were also found to be linked to active challenging work among corrections officers by Dollard & Winefield.<sup>39</sup> However, a comprehensive and in-depth understanding of the role of correctional work on depression will have to address these unexpected results. A possible approach to further exploring the link between job characteristics and depression among corrections officers is the use of qualitative methods, thus allowing for the intersection of interview and observation or survey data. Qualitative analyses allow researchers to probe into structures and meaning systems that inform both psychological and behavioral responses to stress and their subsequent impact among corrections officers. Perhaps, such an exercise will provide greater insight on the ecology of stress among corrections officers and point toward effective intervention approaches.

### LIMITATIONS OF THE STUDY

A major limitation of the study is that it was a sample of convenience and there could be self-selection bias in the corrections officers who volunteered for the study. We found a high level of elevated depression scores, and it is possible that those who were more distressed were more likely to participate. The same could be said for our other major variable of interest, W-FC. A second major limitation of the study is the cross-sectional nature of the data, preventing us from establishing causality. We made certain assumptions about the temporal order of the variables in our conceptual model. While the data are suggestive, a longitudinal design is needed to establish the chronological ordering of the mediation effects. Finally, the measure of W-FC we used was developed by Frone et al,<sup>24</sup> and although it is a widely used measure of this construct and internal reliability was good as measured by Cronbach  $\alpha$ , the scales each consist of only two items. Further research on W-FC among corrections officers should use more comprehensive measure of this construct.

### CONCLUSIONS

The preponderance of stress in correctional work has consequences for the health of correctional workers. This study adds to the literature on the impact of outcomes of stress such as W-FC and F-WC on the well-being of corrections officers. It provides evidence that W-FC and F-WC are the major problems faced by corrections officers and that these problems significantly influence depressive symptoms. It also provides evidence that W-FC and F-WC mediate the relationship between different types of variables, particularly SOC and depressive symptoms.

While this study provides valuable information on W-FC, F-WC, and depressive symptoms in corrections officers in two New England prisons, there is a need for further work to be done in this area. First, future studies can explore the prevalence and impact of different types of W-FC such as: behavior-based conflict, time-based conflict, and strain-based conflict on depression among corrections officers. Second, studies can explore other psychosocial factors that may contribute to the relationship between W-FC and depression. Finally, this study examined the associations between job-related variables in the JCQ; however, a number of work-related variables were not included. Understanding of the etiology of W-FC and depression among corrections officers will benefit from the studies that explore the impact of more work-related variables, such as job satisfaction, burnout, and turnover intention and civility norms on W-FC and depression.

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