HHS Public Access

Author manuscript

Police Q. Author manuscript; available in PMC 2019 December 01.

Published in final edited form as:

Police Q. 2018 December 1; 21(4): 440–460. doi:10.1177/1098611118774764.

Effort–Reward Imbalance and Overcommitment at Work: Associations With Police Burnout

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Abstract

The present study examined associations of effort–reward imbalance (ERI) and over-commitment at work with burnout among police officers using data from 200 (mean age = 46 years, 29% women) officers enrolled in the Buffalo Cardio-Metabolic Occupational Police Stress Study. ERI and overcommitment were assessed using Siegrist's "effort/reward" questionnaire. The Maslach Burnout Inventory-General Survey was used to assess burnout and its three subscales (exhaustion, cynicism, and professional efficacy). Analysis of covariance was used to examine mean values of burnout scores across quartiles of ERI and overcommitment. Linear regression was used to test for linear trend. ERI and overcommitment were positively and significantly associated with cynicism and exhaustion (trend p value < .001), while professional efficacy showed an inverse association with overcommitment (p = .026). Cynicism and exhaustion scores were significantly higher in officers who reported both overcommitment and ERI compared with their counterparts (p < .001). The results suggest that ERI and overcommitment at work are determinants of higher cynicism and exhaustion. The inverse association of overcommitment with professional efficacy (an indicator of engagement at work) suggests that extreme involvement in work may negatively affect efficacy. Overcommitment may be related to a need for approval and inability of officers to withdraw from work, even in an off-duty status. Police agencies should consider organizational remedies to maintain acceptable levels of commitment by officers. In addition, there is a need to monitor and improve effort–reward imbalance experienced by officers.

Keywords

police; work effort–reward imbalance; burnout; overcommitment

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Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Introduction

Policing is an occupation replete with stress (Berg, Hem, Lau, & Ekeberg, 2006; Burke, 2017; Cheong & Yun, 2011; Collins & Gibbs, 2003; van der Velden et al., 2013; Webster, 2014). According to Shane (2010), sources of stress in policing may be classified into two general categories: (a) those inherent in police work such as shift work, overtime hours, court appearances, and traumatic work exposures, and (b) internal stress associated with characteristics of the organization and relationships within. The primary source of stressors for the police officers was thought to be organizational and not operational factors (Basińska & Wiciak, 2013). An earlier study by Kop, Euwema, and Schaufeli (1999) also reported similar findings that organizational stressors were more prevalent than operational stressors. Organizational factors included poor equipment, inadequate supervision, and lack of support while operational exposures included danger and interaction with the public.

Prolonged exposure to work stress has been shown to be associated to a wide variety of adverse health outcomes including physical, psychological, and psychosocial. Posttraumatic stress disorder (American Psychiatric Association, 2013), depression, and suicide (Austin-Ketch et al., 2012; Ma et al., 2015; McCanlies et al., 2014; Violanti, Robinson, & Shen, 2013) have been reported to be prevalent among police officers. Work stressors not only impact officers but also those around them—coworkers, family, and friends (Kirschman, Kamena, & Fay, 2014; Mikkelsen & Burke, 2004). For example, a high percentage of police spouses reported experiencing stress due to the officer's job, including shift work, overtime, fear of the officer being hurt or killed, and the officer sharing too little or too much about their job with them (Finn, 2000). One can add to this array of occupational exposures the recent negative public image that police face, resulting in public loss of confidence in police integrity (President's Task Force on Policing, 2015). Policing, therefore, represents an ideal occupation to examine the potential effect of work-related stress on psychological health outcomes such as burnout.

Burnout is defined as a syndrome consisting of exhaustion, cynicism, and professional efficacy (Leiter & Maslach, 2004; Maslach, Jackson, & Leiter, 1996; Maslach, Schaufeli, & Leiter, 2001). Exhaustion refers to emotional exhaustion. Cynicism reflects an indifferent attitude toward work. Professional efficacy includes traits of occupational accomplishment and engagement (Maslach et al., 1996). In law enforcement environment, burnout may be seen as a response to the continuous and prolonged exposure to occupational stress and is considered a serious health threat among police officers (Burke, 2017; Burke & Richardson, 2001; Melamed, Shirom, Toker, Berliner, & Shapira, 2006; Stearns & Moore, 1993). A review study of stress in policing (Burke, 2017) reported that police officers experience significantly high levels of cynicism, exhaustion, and lower professional efficacy. Compared with two normative samples, police officers scored lower on exhaustion and professional efficacy, but scored higher on cynicism (Lahoz & Mason, 1989; Maslach & Jackson, 1981). Studies of determinants of burnout in policing report a variety of factors including (a) high work demands together with lower resources (Martinussen, Richardsen, & Burke, 2007) as determinants of burnout, (b) high demands as risk factor for higher exhaustion while high control resulted in greater professional efficacy (Hall, Dollard, Tuckey, Winefield, & Thompson, 2010; Taris, Kompier, Geurts, Houtman, & van den Heuvla, 2010), (c)

organizational experiences of police officers being more strongly associated with burn-out than operational experiences (Kohan & Mazmanian, 2003), and (d) attitudes about the use of violence (Kop et al., 1999). These studies suggest that the effort–reward model (Siegrist, 1996) would serve as underlying source of work stress to examine its potential impact on police burnout.

The theoretical basis for effort–reward imbalance (ERI) is based on social reciprocity, which is characterized by mutual cooperative investments based on the norm of return expectancy where a less stressful work environment depends on an equitable balance between efforts and rewards (Siegrist, 1996). Effort refers to the demands of the job and requirements put forth in the policy of the employer while reward is distributed by the employer and consist of money, esteem, and job security (Siegrist, 1996). According to Siegrist (1996), the reward structure depends highly on job stability, the prospect of promotion given a high level of performance, and a salary that is consistent with the work done. Additionally, it is important that workers feel a sense of esteem in the work organization and a cohesive relationship with coworkers. The ERI model separates extrinsic and intrinsic components. The extrinsic component refers to imbalance between effort and reward at work, while the intrinsic component consists of overcommitment to work, a personality-based factor, which reflects the need for control and a desire for approval (Siegrist, 1996, 2002; van Vegchel, de Jonge, Bosma, & Schaufeli, 2005). The ERI model posits that failed reciprocity in terms of efforts and rewards at work elicit stress reactions (Siegrist, 1996; Siegrist et al., 2004; Siegrist & Li, 2016). Studies on police burnout ought to consider the impact of organizational stressors and work demands (Basińska & Wiciak, 2013; Siegrist, 1996). Hence, numerous previous studies have associated the ERI model with stress at work (de Jonge, Bosma, Peter, & Siegrist, 2000; Godin, Kittel, Coppieters, & Siegrist, 2005; Kikuchi et al., 2010; Kivimaki et al., 2002; Lehr, Hilbert, & Keller, 2009; van Vegchel et al., 2005).

Studies in other occupations have identified associations between ERI and burnout (Bakker, Killmer, Siegrist, & Schaufeli, 2000; Bellingrath, Weigl, & Kudielka, 2008; Oren & Littman-Ovadia, 2013; Tsai & Chan, 2010; Unterbrink et al., 2007; Xie, Wang, & Chen, 2011). In a study of nurses, ERI was positively associated with exhaustion and depersonalization burnout scales but negatively associated with overcommitment (Bakker et al., 2000; Schulz et al., 2009; Xie et al., 2011). In a study of German teachers, high rates of exhaustion, depersonalization, and low personal accomplishment were associated with ERI (Unterbrink et al., 2007). In a sample consisting of employees from a wide range of industries and service occupations, Oren and Littman-Ovadia (2013) found that higher ERI ratios were negatively related to lack of efficacy and overcommitment was positively related to exhaustion and cynicism.

There have been some studies of ERI in law enforcement but literature that specifically examined ERI in relation to burnout in policing is limited. The commonly reported risk factors for burnout in policing include high work demands, low resources, lower autonomy in making decisions, poorer relationships between coworkers and supervisors, and other organizational experiences (Garbarino, Cuomo, Chiorri, & Magnavita, 2013; Hall et al., 2010; Martinussen et al., 2007; Taris et al., 2010). For example, in a sample of Canadian officers, higher levels of ERI and overcommitment were associated with greater

psychological distress (Janzen, Muhajarine, & Zhu, 2007). It is also worth noting that officers' attitudes can be influenced by not only organizational rewards but also by individual personality traits (Allisey, Rodwell, & Noblet, 2012). Work-related stress is, therefore, a public health concern and may play a role in the development of mental health problems in police officers (Garbarino et al., 2013); for example, officers who experienced ERI were nearly eight times more likely to suffer from depression compared with those who did not experience ERI.

The present study extends the association of ERI and burnout in police work by examining the three hypotheses of ERI in association with burnout (cynicism, exhaustion, and professional efficacy). These includes (a) the extrinsic hypothesis: ERI is positively associated with the cynicism and exhaustion dimensions of burnout, and inversely associated with the professional efficacy dimension of burnout, (b) the intrinsic hypothesis: personal overcommitment is positively associated with the cynicism and exhaustion dimensions of burnout, and inversely associated with the professional efficacy dimension of burnout, and (c) the interaction hypothesis: officers reporting extrinsic ERI and a high level of intrinsic overcommitment will have even greater levels of burnout.

Methods

Study Design and Participants

Participants were officers enrolled in the epidemiologic study designed to examine the association between workplace stress and subclinical cardiovascular disease, the Buffalo Cardio-metabolic Occupational Stress study. The participants were recruited from the Buffalo, NY, police department, USA, and the only specific inclusion criteria were that participants be sworn police officers and willing to participate. A sample of 281 participants were recruited and examined between 2011 and 2014. A written informed consent was collected from each participant. The study was approved by the internal review boards of the State University of New York at Buffalo, NY. Data were collected at the Center for Health Research in the university at which the study was conducted.

Assessment of ERI

The ERI Inventory (Siegrist, 2002) is a 23-item instrument that refers to participant's present occupation. ERI questionnaire consists of two scales measuring its extrinsic component "effort" (6 Likert scale items) and "reward" (11 Likert scale items), and one scale measuring its intrinsic component "overcommitment." Effort is measured by six items that refer to demanding aspects of the current work environment (constant pressure due to heavy workload, many interruptions while performing job, lots of responsibility, pressure to work overtime, job being physically demanding, and over the past few years job being more and more demanding). Participants rated each item using a 5-point Likert-type scale (1: *disagree, 2: agree but I am not at all distressed, 3: agree and I am somewhat distressed, 4: agree and I am distressed, and 5: agree and I am very distressed*) with higher ratings indicating higher efforts. A sum of score based on the six items was computed (theoretically, the total score for effort ranges from 6 to 30). A higher total score is indicative of higher effort experienced by a participant at work. Reward is measured by 11 items that assess three different aspects

of reward: financial and status related (four items including poor promotion prospect, position adequately reflecting education, adequate promotion prospect considering effort and achievements, and adequate salary considering effort and achievements), esteem rewards (five items including receiving respect from supervisors, colleagues, adequate support in difficult situations, being treated unfairly, and receiving respect and prestige given effort and achievements), and gratification of job security (two items including experiencing undesirable change in my work situation, and poor job security). Participants rated each item using a 5-point Likert-type scale. The positively worded items (e.g., receiving respect from supervisor) were rated using a scale that range from 1 (*disagree and I am very distressed*) to 5 (*agree*). The negatively worded items (e.g., being treated unfairly at work) were rated using a scale that ranges from 1 (*agree and i am very distressed*) to 5 (*disagree*). Therefore, lower ratings for each item indicate lower rewards. A sum of scores based on ratings of these 11 items was computed (theoretically, the total score for reward ranges from 11 to 55). The lower the total score, the fewer the occupational rewards received by the person. To identify ERI, the effort–reward ratio is calculated as follows: ERR = k×(E/R), where E is the total score for effort based on six items, R is total score for reward based on 11 items, and k (k = 6/11) is a correction factor to adjust for the unequal number of items used to assess effort versus reward. An imbalance between effort and reward (ERI) is present when the ratio is different from one (ERR 6≠1), with ERR < 1 indicating high reward but low effort and ERR > 1 indicating high effort but low reward (Niedhammer, Tek, Starke, & Siegrist, 2004). Overcommitment is measured using the sum of six items with a scale that ranges from 1 (*strongly disagree*) to 4 (*strongly agree*). Items include questions such as “I get easily overwhelmed by time pressures at work.”

ERI (the ratio) and overcommitment were the variables of interest in the current analyses. The subscales have satisfactory internal consistency in our data (Cronbach’s alpha > .75).

Assessment of Burnout

The Maslach Burnout Inventory—General Survey (MBI-GS; Schaufeli, Leiter, Maslach, & Jackson, 1996) was used to measure burnout among participants. The MBI is a 16-item instrument that records frequencies of job-related feelings per year ranging from 0 (*never*) to 6 (*everyday*). There are three subscales of MBI: exhaustion, cynicism, and professional efficacy. The exhaustion component is generic, that is, without direct reference to people as the source of the exhaustion (e.g., “Working all day is really a strain for me”). Cynicism reflects indifference or a distant attitude toward one’s work in general (e.g., “I just want to do my job and not be bothered” or “I doubt the significance of my work”). Professional efficacy assesses employee’s expectations of continued effectiveness at work (e.g., “I feel I am making an effective contribution to what this organization does” or “I have accomplished many worthwhile things in this job”). A high degree of burnout is reflected in high exhaustion and cynicism scores and in low professional efficacy scores. The subscales have acceptable internal consistency (Cronbach’s alpha ≥ .80).

Statistical Methods

Of the 281 participants, we excluded retirees (n = 35) and officers with missing data on either burnout scores or ERI (n = 46), leaving a final sample size of 200 officers (57 women,

143 men). Descriptive statistics were used to summarize characteristics of the study sample. Prevalence and means (standard deviations) for various lifestyle and demographics characteristics, ERI components (ERI_ratio and overcommitment), and burnout scores were estimated for the overall study sample and by sex. Pearson's correlation and analysis of variance (ANOVA) were used to assess associations of selected characteristics with both the burnout and ERI component scores. ANOVA or ANCOVA were used to examine mean burnout scores across the quartiles of the ERI_ratio and over-commitment components. Tests for linear trend were obtained from linear regression. Linear regressions were used to test the extrinsic ERI hypothesis and the intrinsic ERI hypothesis. For testing the interaction hypothesis (i.e., third hypothesis), we utilized two statistical approaches. In the first approach, the officers were classified into the following four groups using medians of overcommitment (OVC) and ERI as cut points: Group 1 consists officers without OVC and without ERI, Group 2 consists officers with OVC but without ERI, Group 3 consists officers without OVC but with ERI, and Group 4 consists officers with OVC and with ERI. The third hypothesis was then tested by comparing mean burnout scores of officers in the last three groups with the control group (Group 1) by performing multiple comparison using Dunnett's two-tailed *t* test. In the second statistical approach, we fit a model relating burnout scores to continuous ERI score, continuous overcommitment (OVC) score, and the interaction between them (ERI × OVC). The statistical significance of the interaction term (ERI × OVC) from this model was used as an alternative approach for testing the third hypothesis. Multivariable models were adjusted for age and sex. Statistical significance was assessed at the 0.05 level. All analyses were conducted using SAS software, Version 9.3 (SAS Institute Inc., 2008).

Results

The majority of the study sample ($n = 200$) were males (72%), Caucasian (81%), married (69%), and held the rank of patrol officer (55%). The mean age was 46.2 years ($SD = 7$; Table 1). The mean burnout scores (±SD) for cynicism, exhaustion, and professional efficacy were 12.4 ± 7.9, 11.5 ± 7.0, and 28.5 ± 6.0, respectively.

Table 2 displays associations of selected covariates with burnout subscale scores and ERI component scores. Age was significantly associated with professional efficacy (correlation coefficient = .15, p = .029).

Table 3 presents unadjusted and multivariable-adjusted mean burnout sub-scale scores across the quartiles of the ERI_ratio and overcommitment. Mean scores for cynicism and exhaustion had a positive trend across quartiles of the ERI_ratio [(9.3 ± 6.8, 9.1 ± 7.4, 14.5 ± 8.3, 16.5 ± 6.4) and (7.6 ± 4.8, 9.4 ± 6.8, 12.2 ± 6.1, 16.9 ± 6.4), respectively; $p < .001$]. These associations remained significant after adjustments for age and sex. No association was found between professional efficacy and the ERI_ratio component. Interestingly, overcommitment was significantly associated with adjusted mean values for all three sub-scales of burnout. Mean cynicism and exhaustion scores had a positive trend across quartiles of overcommitment [(7.9 ± 6.8, 11.5 ± 7.7, 14.1 ± 8.2, 16.9 ± 6.1) and (6.7 ± 4.7, 9.7 ± 5.9, 13.8 ± 5.6, 17.0 ± 6.9), respectively; $p < .001$]. Adjusted mean professional efficacy scores had a decreasing trend across quartiles of overcommitment (30.4 ± 0.8, 27.9 ± 0.8, 27.9

± 0.9, 27.5 0.9; p contrast = .015). A comparison of burnout scores by combined levels of overcommitment and ERI is shown in Table 4. The results indicate that cynicism and exhaustion scores were significantly higher in officers who reported high over-commitment (>median) and high ERI (>median) compared with those who reported low overcommitment and low ERI (cynicism scores: 16.7 ± 0.8 vs. 7.3 ± 0.9, $p < .001$; exhaustion scores: 16.0 ± 0.7 vs. 6.4 ± 0.8, $p < .001$). On the other hand, professional efficacy scores were significantly lower in officers who reported overcommitment and ERI compared with their counter parts (27.3 ± 0.7 vs. 30.0 ± 0.8, $p = .026$). There were no significant interaction between ERI and overcommitment for all three burnout dimensions (cynicism, $p = .627$; exhaustion, $p = .849$; professional efficacy, $p = .562$). Figure 1 illusptrates the various components of occupational reward=and their relationship to burnout.

Discussion

The present study explored cross-sectional associations between effort–reward imbalance at work and burnout among police officers. Three hypotheses were offered: (a) ERI is positively associated with the cynicism and exhaustion component of burnout, and inversely associated with the professional efficacy component of burnout; (b) overcommitment is positively associated with the cynicism and exhaustion component of burnout, and inversely associated with the professional efficacy component of burnout; and (c) the interaction of extrinsic and intrinsic factors (ERI × OVC) will result in increased levels of burnout.

Regarding the first hypothesis, ERI was positively associated with cynicism and exhaustion burnout scores but the hypothesized inverse association with professional efficacy was not statistically significant. One possible explanation for this result is that individuals with high levels of efficacy tend to interpret work demands more as challenges than as threats (Bartone, 2000; Ventura, Salanova, & Lorens, 2015). Ventura et al. (2015) add that higher levels of efficacy may affect one’s perception of their ability to handle work situations without burning out, regardless of conditions. Police officers who have the ability to positively adapt to situations at work are better able to handle the strain of ERI (Paton et al., 2013). This has become more evident in present day policing, where efforts required in police work are ever increasing and resources are diminishing (Violanti, Paton, & Dunning, 2000). The finding that professional efficacy remains unaffected by ERI points to the resiliency of police officers in unfavorable working conditions and may be indicative of work engagement. Work engagement is associated with efficacy and reflects a positive orientation toward work (Llorens, Schaufeli, Bakker, & Salanova, 2007; Schaufeli & Bakker, 2004).

Our second hypothesis was confirmed. Findings indicated that overcommitment was significantly associated with all three dimensions of burnout. Unlike ERI, overcommitment was associated with a significant *decrease* in professional efficacy, suggesting that higher level of overcommitment affected efficacy negatively. Overcommitment is considered a personality coping behavior based on the need for approval and esteem (Hanson, Schaufeli, Vrijkotte, Plomp, & Godaert, 2000; Siegrist, 1996). In the Siegrist (2002) ERI model, overcommitment included the need to establish control over the work environment and the inability to withdraw from work. Preckel, Meinel, Kudielka, Huag, and Fischer (2007) found

that overcommitment was independently associated with increased exhaustion and may be maladaptive if it becomes too rigid. These authors add that overcommitment can be a positive work trait but can also lead to burnout if overused (Preckel et al., 2007). A systematic review by Siegrist and Li (2016) found that a majority of studies found significant associations of overcommitment with stress. Among those in policing, there is a strong need for approval based on the amount of work performed (e.g., arrests, traffic tickets). Additionally, overcommitted officers may have difficulty disengaging from work because of strong identification with the job (Janzen et al., 2007; Siegrist, 1996; Violanti et al., 2000).

The third hypothesis proposed that the combination of high level of over-commitment and high level of effort-to-reward imbalance may exacerbate burn-out. We posited that extrinsic and intrinsic factors may act together with one another to further increase odds of burnout. The results confirm that officers who reported higher levels for both overcommitment and ERI had cynicism and exhaustion scores twice as large as officers who reported lower levels for both overcommitment and ERI. In addition, combination of overcommitment and ERI was associated with significantly lower professional efficacy, the third dimension of burnout. In a model that related burnout scores to ERI, OVC, and the interaction between them (ERI × OVC), the interaction term was not statistically significant for any of the three burnout dimensions. This finding (statistical nonsignificance of the interaction term) was consistent with Preckel et al. (2007) who found the interaction between ERI and OVC did not significantly explain variance in self-reported health outcomes. A meta-analysis of 51 studies (Siegrist & Li, 2016) reported that there is limited evidence in favor of the interaction hypothesis and it requires further investigation in future studies.

Increased levels of cynicism are nothing new in police research (Andersson, 1996; Enciso, Maskaly, & Donner, 2017; Niederhoffer, 1967; Reichers, Wanous, & Austin, 1997; Richardsen, Burke, & Martinussen, 2006). Organizational factors that have been examined in the police cynicism literature include job satisfaction, workload, and job resources. Within the context of ERI, Richardsen et al. (2006) found that the organizational factors of having heavy job demands and lack of resources were both directly related to cynicism. Overall, cynical officers have more negative work relationships, and those with more cynicism toward the police organization also report lower levels of job satisfaction (Bennett & Schmitt, 2002). Other research suggests that officers with higher levels of cynicism tend to feel more socially isolated than those officers with lower levels (Regoli, Crank, & Rivera, 1990). This emphasizes the important role of esteem, recognition, and appropriate feedback as indicated by the ERI model in reducing burnout-related cynicism.

Policy Interventions

Our findings suggest that both organizational (extrinsic) and individual (intrinsic) ERI factors are associated with dimensions of burnout. In terms of policy-based interventions, the findings, therefore, suggest that both the organizational and individual factors need to be addressed to reduce burnout. This is in line with Burke (2017) who comments that burnout reduction is based on worksite changes and changing the orientation of individual officers by education and increasing personal resilience. Leiter and Maslach (2004) suggest reducing

burn-out with organizational changes which may increase the balance between effort and reward. They suggest reducing workload and increasing reward by allowing more control, acknowledging accomplishments, fairness, and financial balance. On the individual level, Leiter (1992) suggests that the selection process of new personnel should include an assessment of psychological and coping skills along with indoctrination training to help them to deal with stress and burnout. The author also suggests that individual counseling be available to assist workers experiencing work trauma and stress.

The recent movement toward positive psychology calls for an emphasis on increasing resilience among officers to combat stress and burnout. Resilience is considered as the ability to adapt successfully in the face of stress, adversity, trauma, tragedy, or significant threat (Horn, Charney, & Feder, 2014). Resiliency can help officers resist burnout by rebounding from the negative aspects of burnout and to sustain the capacity to not be disrupted by stress and stay engaged at work (Reich, Zautra, & Hall, 2011). It is important to develop the leadership necessary to create a culture of resilience in policing (Everly, 2012). Leaders can increase resilience by increasing esteem of officers through participation in decision-making and positive feedback. In terms of the ERI model, this would allow some sense of over work and increase self-esteem among officers.

Advantages and Limitations

Advantages of the study include a highly motivated population of police officers and an adequate sample size. Measures for ERI and burnout are well-validated. There are limitations to the present study including possible bias due to the use of self-reported data. The cross-sectional design precludes any assessment of causality between ERI and burnout. The present sample was from a mid-sized urban police agency in the Northeastern United States and, therefore, may not be generalizable to police agencies of different size and geographic locations.

In summary, this study found that an increased ERI among police officers was associated with significantly increased levels of cynicism and exhaustion but not professional efficacy. These results add to the theoretical debate concerning the three dimensions of burnout. Ventura et al. (2015) commented that professional efficacy should not be considered a dimension of burnout, but instead one of its key predictors. According to Breso, Salanova, and Schaufeli (2007), previous studies have indicated that professional efficacy has a weak association with the two other burnout dimensions, leading several researchers to consider exhaustion and cynicism as the core of burnout (Green, Walkey, & Taylor, 1991; Schaufeli, Mart ınez, Marque´s-Pinto, Salanova, & Bakker, 2002). Alternatively, Maslach et al. (2001) comment that a lack of professional efficacy is a direct result of prior exposure to high levels of cynicism and exhaustion in the workplace.

The present study shows that the professional efficacy of officers remained unaffected despite ERI and reports of cynicism and exhaustion. Efficacy speaks to work engagement, a positive behavior, related to high levels of energy, dedication, and absorption into work (Richardsen et al., 2006). From these findings, perhaps the supposition that police officers are “burned out Samaritans” (Ellison & Genz, 1978) is not entirely accurate. Our findings may be an indication of the resilient nature of persons who work in policing, referring to

their resilience to withstand stress and remain efficacious despite intrinsic and extrinsic work-related imbalances.

The caveat is that officers may tend to overcommit to work, which may significantly hamper work efficacy. Overcommitment involves a striving for approval based on the amount of work one needs to accomplish to achieve recognition. Additionally, because of the strong influence of cohesive police culture, overcommitted officers may be unable to let go of work even when off duty (Siegrist et al., 2004; Violanti et al., 2000). Police agencies should consider organizational remedies for their personnel, striving to maintain acceptable levels of commitment by officers, and monitoring the effort required by officers in their daily tasks. It is important for police organizations to maintain an equitable balance of effort and reward in order to keep a high level of mental well-being in this demanding profession.

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This study was supported by the Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health (Contract Nos. 1R01OH009640-01A1 and 200-2003-01-580). The sponsor had no involvement in the study design; in the collection, analysis, and interpretation of data; the writing of the report; nor in the decision to submit the article for publication. The findings and conclusions in this report are those of the authors and do not necessarily represent the views of the National Institute for Occupational Safety and Health.

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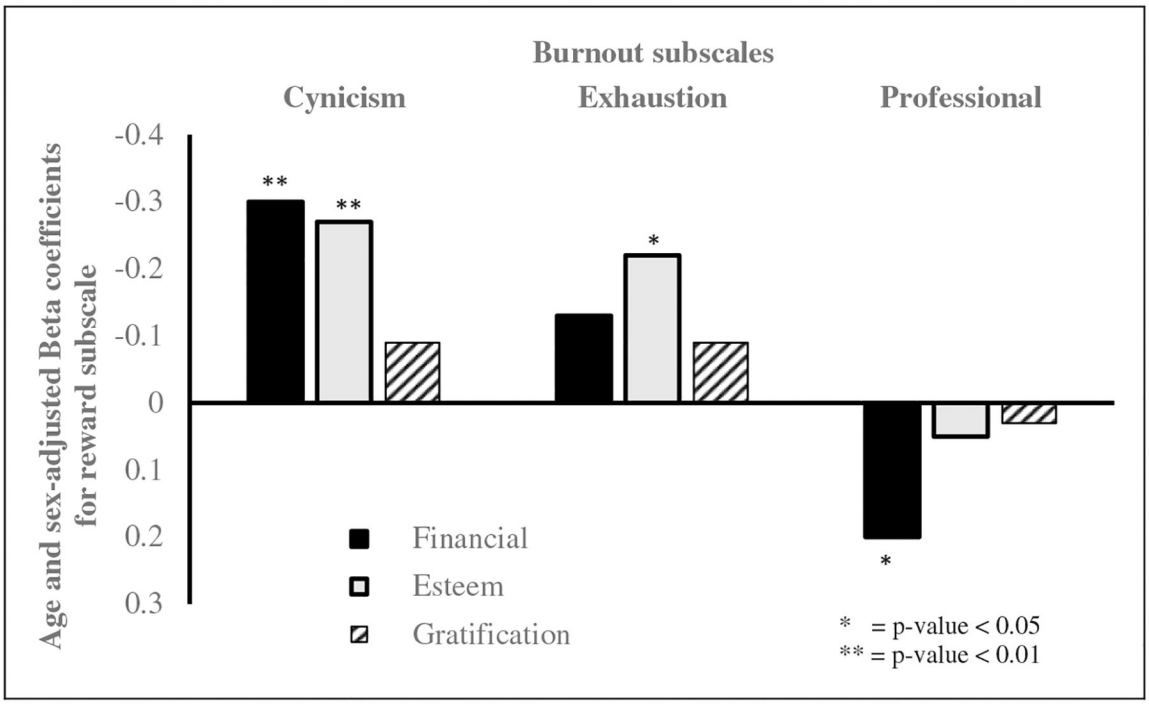

Figure 1.

Age and sex-adjusted standardized regression coefficients (betas) showing the relative "impact" or independent "effects" of reward subcomponents on burnout subscales. For each outcome (burnout subscale), a multivariable regression model relating each outcome to the following variables were fit (financial reward score, esteem score, gratification score, age, and sex).

Table 1.

Demographic, Lifestyle, and Physiological Characteristics in Officers Stratified by Gender.

Characteristics	Total (*N* = 200) *N* (%)	Female (*N* = 57) *N* (%)	Male (*N* = 143) *N* (%)
Marital status			
Single	20 (10.1)	9 (15.8)	11 (7.8)
Married	137 (68.8)	30 (52.6)	107 (75.4)
Divorced	42 (21.1)	18 (31.6)	24 (16.9)
Education			
High school/GED	13 (6.5)	2 (3.5)	11 (7.7)
College < 4 years	103 (51.5)	32 (56.1)	71 (49.7)
College 4+ years	84 (42.0)	23 (40.4)	61 (42.6)
Years in Service			
0–9 years	9 (4.5)	2 (3.5)	7 (4.9)
10–14 years	45 (22.5)	14 (24.6)	31 (21.7)
15–19 years	68 (34.0)	23 (40.4)	45 (31.5)
20+ years	78 (39.0)	18 (31.6)	60 (42.0)
Rank			
Police officer	110 (55.0)	34 (59.7)	76 (53.2)
Sergeant/Lieutenant	39 (19.5)	9 (15.8)	30 (21.0)
Captain/Detective	51 (25.5)	14 (24.6)	37 (25.9)
Race			
Caucasian	162 (81.0)	41 (71.9)	121 (84.6)
African American	38 (19.0)	16 (28.1)	22 (15.4)
	Mean (SD)	Mean (SD)	Mean (SD)
Age (years)	46.2 (6.9)	46.6 (6.5)	46.1 (7.0)
Effort-reward imbalance (ERI)			
ERI_ratio	0.50 (0.22)	0.50 (0.23)	0.51 (0.21)
Overcommitment	12.2 (3.2)	12.6 (3.6)	12.1 (3.1)
Burnout			
Cynicism	12.4 (7.9)	12.1 (7.6)	12.5 (8.1)
Exhaustion	11.5 (7.0)	11.9 (8.1)	11.3 (6.5)
Prof efficacy	28.5 (6.0)	29.6 (5.4)	28.0 (6.2)

Table 2.

Univariate Associations of Burnout Subscales and Effort–Reward Imbalance (ERI) Components With Demographic Characteristics.

	Burnout subscales			ERI components	
Characteristics	**Cynicism *r* coeff (*p* value[a])**	**Exhaustion *r* coeff (*p* value)**	**Prof efficacy *r* coeff (*p* value)**	**ERI_ratio *r* coeff (*p* value)**	**Overcommitment *r* coeff (*p* value)**
Age (years)	−.02 (.799)	−.01 (.930)	.15 (.029)	−.04 (.622)	.09 (.205)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Sex					
Females	12.1 (7.6)	11.9 (8.1)	29.6 (5.4)	0.50 (0.23)	12.6 (3.5)
Males	12.4 (8.1)	11.3 (6.5)	28.0 (6.2)	0.51 (0.21)	12.1 (3.1)
p value[b]	.805	.605	.095	.832	.279

Note. Values are Pearson correlation coefficients (p value) for continuous variables and means (standard deviations) for categorical variables.

[a] *p* value from correlation analyses.

[b] *p* value from analysis of variance.

Table 3.

Mean Scores of Burnout Subscales Across Quartiles of Effort–Reward Imbalance Components.

		Unadjusted			Multivariable adjusted[a]		
Effort-reward imbalance (ERI) components	**N**	**Cynicism Mean (SD)**	**Exhaustion Mean (SD)**	**Prof efficacy Mean (SD)**	**Cynicism Mean (SE)**	**Exhaustion Mean (SE)**	**Prof efficacy Mean (SE)**
ERI_ratio							
[0.24 – 0.34]	50	9.3 (6.8)	7.6 (4.8)	28.2 (5.3)	9.3 (1.0)	7.6 (0.9)	28.1 (0.8)
[0.35 – 0.45]	49	9.1 (7.4)	9.4 (6.8)	30.1 (5.9)	9.1 (1.0)	9.4 (0.9)	30.1 (0.8)
[0.46 – 0.61]	53	14.5 (8.3)	12.2 (6.1)	27.5 (6.8)	14.5 (1.0)	12.2 (0.8)	27.6 (0.8)
[0.62 – 1.47]	48	16.5 (6.4)	16.9 (6.4)	28.2 (5.6)	16.5 (l.l)	16.9 (0.9)	28.1 (0.8)
β (SE)		14.3 (2.4)	15.2 (2.0)	−2.1 (1.9)	14.3 (2.4)	15.2 (2.0)	−1.9 (1.9)
p value		<.001	<.001	.292	<.001	<.001	.332
Overcommitment							
[6.0–10.0]	53	7.9 (6.8)	6.7 (4.7)	30.2 (5.7)	7.8 (1.0)	6.6 (0.8)	30.4 (0.8)
[11.0–12.0]	58	11.5 (7.7)	9.7 (5.9)	27.8 (6.7)	11.4 (1.0)	9.7 (0.8)	27.9 (0.8)
[13.0–14.0]	42	14.1 (8.2)	13.8 (5.6)	28.0 (4.7)	14.2 (l.l)	13.9 (0.9)	27.9 (0.9)
[15.0–21.0]	47	16.9 (6.1)	17.0 (6.9)	27.8 (6.2)	17.1 (l.l)	17.1 (0.9)	27.5 (0.9)
β (SE)		1.12 (0.2)	1.30 (0.1)	−0.26 (0.1)	1.14 (0.2)	1.32 (0.1)	−0.30 (0.1)
p value		<.001	<.001	.052	<.001	<.001	.021

Note. *p* values obtained from linear regression.

[a]Adjusted for age and sex.

Table 4.

Adjusted[a] Mean Levels of Burnout Scores Across the Effort–Reward Imbalance (ERI) and Overcommitment (OVC) Level Combinations.

OVC × ERI groups	N	Cynicism Mean (SE)	*p* value[b]	Exhaustion Mean (SE)	*p* value	Prof efficacy Mean (SE)	*p* value
w/o OVC and w/o ERI	57	7.3 (0.9)	Referent	6.4 (0.8)	Referent	30.0 (0.8)	Referent
w OVC and w/o ERI	42	11.8 (l.l)	.005	11.2 (0.9)	.0002	27.9 (0.9)	.198
w/o OVC and w ERI	23	11.4 (1.5)	.049	9.0 (1.2)	.176	29.6 (1.2)	.988
w OVC and w ERI	78	16.7 (0.8)	<.001	16.0 (0.7)	<.001	27.3 (0.7)	.026
p value[c]		<.001		<.001		.047	

Note. Groups were created based on the medians (w/o OVC < 12.0, w OVC ≥ 12.0; w/o ERI < 0.458, w/ ERI ≥ 0.458). Interaction p values between ERI and overcommitment were not significant (cynicism: $p = .627$, exhaustion: $p = .849$; and professional efficacy: $p = .562$).

[a]Adjusted for age and sex.

[b]*p* values obtained from multiple comparisons using Dunnett's two-sided test with the control group ("w/o OVC and w/o ERI").

[c]*p* values for mean differences obtained from analysis of covariance (ANCOVA).