



Examining the role of cynicism in the relationships between burnout and employee behavior



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ABSTRACT

The purpose of the study was to examine the relation of burnout components (i.e., exhaustion, cynicism, and professional inefficacy) with employees' self-rated job performance and prosocial behavior and test a conceptual model that incorporates the direct and indirect relationships of the burnout components with job performance and prosocial behavior. A paper-and-pencil survey battery was completed by 262 working adults in a university setting. The independent and dependent variables were collected one month apart to reduce the likelihood of common method variance bias. Emotional exhaustion and professional inefficacy were associated with lower task and contextual performance, and prosocial behavior. Cynicism was a significant partial mediator of the emotional exhaustion and professional inefficacy relations with three outcome variables, linking to increased task performance, contextual performance, and prosocial behavior. This is one of the few studies that use the burnout process model to examine the links between burnout and performance and prosocial behavior.

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Análisis del papel del cinismo en la relación entre el *burnout* y el comportamiento de los trabajadores

RESUMEN

El objetivo de este trabajo es analizar la relación que tienen los componentes del *burnout* (es decir, agotamiento, cinismo e ineficacia profesional) con el desempeño profesional autoevaluado y el comportamiento prosocial, así como poner a prueba un modelo conceptual que incorpora la relación directa e indirecta que guardan los componentes del *burnout* con el desempeño laboral y el comportamiento prosocial. Una muestra de 262 adultos que trabajaban en el entorno universitario cumplimentó una encuesta de papel y lápiz. Las variables independientes y dependientes se calcularon un mes más tarde con el fin de reducir la probabilidad del sesgo de varianza común del método. El agotamiento emocional y la ineficacia profesional se asociaban con un menor desempeño en las tareas y con el desempeño contextual, además de con el comportamiento prosocial. El cinismo constituía un significativo mediador parcial en la relación que mantenían el agotamiento emocional y la ineficacia profesional con tres variables dependientes, vinculándose con un aumento del desempeño profesional y contextual y con el comportamiento prosocial. Es uno de los pocos estudios que se sirven del modelo procesual del *burnout* para analizar la relación entre burnout, desempeño y comportamiento prosocial.

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Burnout has long been regarded as having a negative impact on workplace well-being and productivity. Organizational research suggests that although employees who are happy and engaged are more productive (Shuck & Reio, 2014), employees who lack energy or other resources suffer decrements in performance and are less likely to engage in prosocial behaviors (Demerouti, Bakker, & Leiter, 2014; Reio & Sanders-Reio, 2011). Burnout consists of

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three components: emotional exhaustion, cynicism (depersonalization), and diminished professional efficacy (Maslach, Jackson, & Leiter, 1996). To date, most empirical research and practice relies on the assumption that burnout negatively affects organizational outcomes, including job performance (Chiaburu, Peng, Oh, Banks, & Lomeli, 2013; Taris, 2006). However, beyond the simple burnout effect on employees' performance, understanding the distinction between three burnout components is imperative because each has different antecedents and consequences and potential causal relationships among the components. Emotional exhaustion occurs when employees feel overwhelmed and drained by the demands of their work and is closely related to absenteeism (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Cynicism and diminished professional efficacy, on the other hand, are associated with poor job resources (Bakker, Demerouti, & Verbeke, 2004). Of the three components, cynicism is found to be the most powerful predictor of turnover intention (Leiter & Maslach, 2009).

Moreover, some research has addressed causal relationships among the three burnout components. For example, Leiter and Maslach (1988) noted that high levels of emotional exhaustion would lead to high levels of cynicism, which, in turn, leads to diminished professional efficacy. Because each of the burnout components demonstrates differential relationships with a wide range of antecedents and consequences, and with each other, it is possible that employees may experience one symptom (Demerouti, Verbeke, & Bakker, 2005) or two or all three symptoms of burnout depending upon the nature of their specific work conditions. This implies when employees suffer from more than one of the three burnout symptoms it is conceivable that each burnout component may play a differential role in predicting organizational outcomes like job performance or prosocial behavior (Ângelo & Chambel, 2014; Garnett, Marlowe, & Pandey, 2008), including acting as a mediator or moderator variable (Xu, Bègue, & Bushman, 2012). For the purpose of this study, we define job performance as "actions and behaviors that are under the control of the individual that contributes to the goals of the organization" (Rotundo & Sackett, 2002, p. 66).

Cynicism generally leads to negative associations with performance and prosocial behavior, conflicts among individuals, staff circulation rapidity, and absenteeism for individuals and organizations (Chiaburu et al., 2013; Naus, van Iterson, & Roe, 2007). In contrast, organizational researchers suggest that cynical behavior can also serve as an important coping mechanism that keeps stress and burnout at bay (Brandes et al., 2008; Brandes & Das, 2006). Cynical behavior can be a form of expression that increases not only an employees' divergent and critical thinking, but can also serve as a way to alleviate frustration with problem situations (Brandes & Das, 2006; Cutler, 2000; Wilkerson, Evans, & Davis, 2008). These inconsistent and mixed findings suggest a lack of conceptual and empirical clarity regarding the dynamic processes associated with the burnout dimensions. Therefore, it is important to clarify the role of cynicism in the relationships between other aspects of burnout (i.e., exhaustion and professional inefficacy) and employee behavior.

The purpose of this present study is twofold. First, it attempts to examine the relation of each burnout component with employees' job performance (i.e., task and contextual performance) and prosocial behavior, defined as positive social behavior that promotes the well-being and integrity of other people or society as a whole (Brief & Motowidlo, 1986). Second, it tests a conceptual model that incorporates the direct and indirect relationships of the three burnout components with job performance and prosocial behavior. This study makes substantial contributions to the literature in the following ways. As mentioned above, the quest to find the role of cynicism as a coping strategy in the development of job burnout has

proven elusive. Shedding light on this question is a significant next step in this line of research. Although the bulk of previous studies have suggested that cynicism contributes to negative effects on workplace outcomes (Chiaburu et al., 2013; Wilkerson, 2002), cynicism may not necessarily be a negative predictor of organizational outcomes (Brandes & Das, 2006). Therefore, our investigation could provide a better understanding of the possible role of cynicism in workplace performance, especially when employees suffer from all three symptoms of burnout concurrently. Moreover, earlier studies have demonstrated the mediating role of burnout between personality and job performance (Swider & Zimmerman, 2010), between social support and job performance (Parker & Kulik, 1995), and between psychosocial risk and work-related factors and musculoskeletal disorders (Gholami, Pahlavian, Akbarzadeh, Motamedzade, & Moghaddam, 2016; Jaworek, Marek, Karwowski, Andrzejczak, & Genaidy, 2010). However, little research has investigated plausible mechanisms partially mediating the relationships between the other two burnout components (i.e., emotional exhaustion and diminished professional efficacy) and employee behavior in organizational settings. This study will thus add to the knowledge base related to understanding relationships among the three burnout components. Ultimately, the findings might provide new information that support better ways for human resource professionals to help employees manage and prevent burnout in their work and personal lives.

Conceptual Framework

We undergird our research with a combination of Maslach et al.'s (1996) three-dimensional and Leiter's (1993) development process theories to understand burnout and its link to job performance and prosocial behavior. The underlying assumption of this study is that high job demands and low job resources is predictive of burnout, following the Job Demands-Resources model (JD-R; Bakker et al., 2004; Bakker & Demerouti, 2007). Although the study did not investigate the relationships between the two working characteristics and burnout components, the JD-R model helps explain the links between the three burnout components and the employees' behavioral outcomes examined in this research: (a) task performance, (b) contextual performance, and (c) prosocial behavior.

Burnout

Burnout is defined as a state of physical, mental, and emotional exhaustion caused by a combination of very high expectation and persistent situational stress (Freudenberger, 1974). Maslach et al. (1996) conceptualized burnout as a three-dimensional syndrome: (a) emotional exhaustion, (b) cynicism (also known as depersonalization), and (c) diminished professional efficacy (also known as lack of personal accomplishment). Emotional exhaustion represents a depletion of emotional energy and resources. Employees who are emotionally exhausted typically experience physical and cognitive fatigue. Cynicism describes where employees take cold, indifferent attitudes toward their job, coworkers, and organization. Diminished professional efficacy reflects feelings of reduced ability on the job. When employees feel a sense of decline in personal job competence, they feel a growing sense of inadequacy.

With regard to the sequence of the three burnout components, Leiter (1993) proposed a mixed sequential and parallel development model, indicating that burnout starts with emotional exhaustion, which in turn contributes to increased cynicism. This suggests that emotional exhaustion arises from work stressors, that is, from being continuously challenged with high job demands (e.g.,

work pressure, high emotional demands). Subsequently, employees can develop a cynical attitude toward the job as a coping strategy to distance themselves from the stress (Naus et al., 2007; Taris, LeBlanc, Schaufeli, & Schreurs, 2005). Thus, cynicism may mediate the relation between work stressors and behavioral outcomes. Meanwhile, the diminished professional efficacy triggered by the work environment develops in parallel with emotional exhaustion.

Job Performance

Job performance is one of the major organizational outcomes associated with employee burnout (Brandes et al., 2008; Wright & Cropanzano, 1998). Borman and Motowidlo (1993) identified two broad dimensions of job performance: (a) task performance (also known as in-role performance) and (b) contextual performance (also known as extra-role performance). Task performance includes behaviors that directly contribute to the technical core processes and maintenance activities in an organization, such as producing products, distributing finished products, acquiring inventory, managing subordinates, or delivering services. Contextual performance involves behaviors that contribute to the culture and climate of the organization which influences others to carry out organizationally valuable work. Examples would include defusing hostility and conflict and encouraging interpersonal trust.

Although the burnout literature suggests it may be associated with poorer job performance, this relationship has received inconsistent empirical support. For example, some studies supported a negative association between burnout and performance (Bhagat, Allie, & Ford, 1995; Wright & Cropanzano, 1998), while others have found a positive one (Keijsers, Schaufeli, Le Blanc, Zwerts, & Reis-Miranda, 1995; Randall & Scott, 1988) or no relationship at all (Hakanen & Koivumäki, 2014; Parker & Kulik, 1995; Wright & Bonett, 1997). Demerouti et al. (2005) suggested these conflicting results may reveal a relationship between burnout configurations, rather than burnout dimensions and performance. Nevertheless, because the weight of the literature suggests a negative burnout-performance relationship, we expect that each of the burnout components will be negatively associated with both forms of job performance.

Prosocial Behavior

Prosocial behavior refers to positive acts, such as helping, sharing, donating, cooperating, and volunteering. Prosocial behavior could overlap with a number of constructs, including organizational citizenship behavior (OCB) and contextual performance. However, prosocial behavior differs from OCB in that it can be either role-prescribed or extra-role; OCB by definition can only be extra-role (Wilkinson et al., 2008). Further, prosocial behavior can be positive toward a coworker, but negative toward an organization. An example of this might be helping a coworker solve a personal issue at the expense of the timely task completion for an important client (Borman & Motowidlo, 1997). Thus, by engaging in the prosocial behavioral act, the individual rather than the organization benefits.

Prosocial behavior, albeit conceptually similar to contextual performance, also differs meaningfully from the construct. Borman and Motowidlo (1997) posited a five-part taxonomy that allows for a more fine-grained understanding of contextual performance that includes: (a) persisting enthusiastically and with extra effort to successfully complete one's own tasks (e.g., perseverance, conscientiousness), (b) volunteering to take on tasks not necessarily related to one's job (e.g., taking initiative), (c) helping and cooperating (e.g., helping coworkers, altruism), (d) following organizational rules and procedures (e.g., complying with organizational values and policies, and (e) supporting and embracing organizational

objectives (e.g., organizational loyalty). The taxonomy demonstrates that engaging in prosocial behavior is part of contextual performance (most closely aligned with a-c above), yet because it is primarily motivated by egoistic and self-serving concerns (Dovidio, Piliavin, Gaertner, Schroeder, & Clark, 1991), unlike contextual performance, it does not necessarily have to contribute to the overall success of the organization (Borman & Motowidlo, 1997). Research suggests that emotional exhaustion, cynicism, and diminished professional efficacy, as a result of overwhelming demands and lack of physical and psychological resources, have a negative influence on prosocial behavior (DeWall, Baumeister, Gailliot, & Maner, 2008; Xu et al., 2012). For example, a challenging, stressful work environment would make a high burnout employee less likely to be prosocial or willing to help and cooperate with others.

The Associations of the Burnout Components with Employee Behavioral Outcomes

The JD-R model proposes that working conditions can be categorized as job demands and job resources, each leading to two psychologically different processes. In the first process, demanding aspects of work (e.g., work overload, unreasonable customers) lead to constant overtaxing and in the long run to exhaustion (e.g., Leiter, 1993; Wright & Cropanzano, 1998). In the second process, a lack of job resources complicates the meeting of job demands and impedes actual goal accomplishment, which leads to failure and frustration (Bakker, Demerouti, DeBoer, & Schaufeli, 2003). Regardless of the type of occupation, burnout develops when job demands are high and job resources are limited because such negative working conditions lead to energy depletion and undermine employees' motivation (Demerouti et al., 2001). Research has provided empirical evidence that job demands were likely the most important antecedents of emotional exhaustion, which, in turn, would predict task performance (Bakker et al., 2004; Hockey, 1993). Conversely, job resources (e.g., autonomy, performance feedback) tend to be the most powerful predictors of contextual performance through their relationship with cynicism (Bakker et al., 2004).

This study incorporated both Leiter's (1993) process model and the JD-R model as they applied to burnout, job performance, and prosocial behavior. The negative influence of emotional exhaustion on job performance can be explained because it not only directly influences job performance, but also because it can lead to cynicism, which in turn influences contextual performance in particular, but also task performance to a significant, but lesser extent. This indicates that both the job demands-exhaustion-task performance sequence and the job demands-exhaustion-cynicism-contextual performance sequence may coexist. Furthermore, the combined model involves not only the indirect influence of job demands on cynicism through emotional exhaustion, but also the direct influence of job resources on cynicism. Given those possible sequences started from either emotional exhaustion or cynicism separately or jointly, the present study suggests that cynicism is associated with inadequate job resources and/or is developed through exhaustion resulting from excessive job demands, and thus will have a negative association with both task performance and contextual performance.

As for prosocial behavior, this study posits that stressful working conditions with excessive demands or lack of resources may wear down employees, leading them to experience burnout, which progressively worsens the employees' desire to initiate prosocial behavior. Emmerick, Jawahar, and Stone (2005) noted that employees' sense of emotional and mental resource depletion averted them from putting extra effort or spending personal time in activities that exceed job requirements. If an individual's resources are depleted, it becomes difficult for the individual to reflect on their behavior, reassess the decision process, reach factual

or counterfactual conclusions, and store appraisal and evaluation information in memory (Xu et al., 2012). Studies have demonstrated that resource depletion decreases the likelihood of prosocial behavior (DeWall et al., 2008; Xu et al., 2012). Relating to the three burnout components, emotional exhaustion and cynicism react to a work situation with chronic, overwhelming demands which foster feelings of depleted resources and lack of energy (Bakker et al., 2004; Leiter, 1993). Diminished professional efficacy reflects being frazzled and exhausted as a result of an excessive demand on energy, power, and resources (Freudenberger, 1974). Accordingly, this study proposes that all three burnout components are negatively associated with prosocial behavior.

Based on the aforementioned literature, we hypothesize:

Hypothesis 1: Emotional exhaustion is negatively related to task performance, contextual performance, and prosocial behavior.

Hypothesis 2: Cynicism is negatively related to task performance, contextual performance, and prosocial behavior.

Leiter's (1993) mixed sequential and parallel development model argued that the feelings of diminished professional efficacy triggered by the work environment develops in parallel with the other two burnout components, rather than sequentially. Contrary to the other components, personal accomplishment reflects an individual difference characteristic similar to self-efficacy (Cordes & Dougherty, 1993). Research suggested that employees with low levels of professional efficacy tend to have a deflated view of their progress, being disappointed with tasks, projects, and relationships (Shoss, Jiang & Probst, 2016). That is, diminished professional efficacy, which occurs with feelings of inefficacy in one's job and poor professional self-esteem, is associated with low task and contextual performance (Demerouti et al., 2005).

Hypothesis 3: Diminished professional efficacy is negatively related to task performance, contextual performance, and prosocial behavior.

The Role of Cynicism in the Relationships between Burnout Components and Employee Behavior

A large body of research has proposed that cynicism is negatively associated with both job performance and prosocial behavior (e.g., Bakker et al., 2004; Demerouti et al., 2005). In addition to the relationship between cynicism and job-related outcomes, this study investigates the possible positive role of cynicism at work where an individual suffers from the various accompanying symptoms of burnout. Mirvis and Kanter (1989, 1991) explained that cynicism is different from skepticism in that it is a strategy individuals can employ to cope with an unfriendly, unstable, and insecure world, which is in essence a healthy response to work and life. The authors argued that employees who experienced, for example, a lack of job security under unstable economic conditions tend to build a self-protective shell around them. Thus, cynicism can be understood as a defensive, cognitive method of creating a protective distance in stressful situations (Cartwright & Holmes, 2006). Individuals may hold a distant attitude (i.e., cynicism), which prevents one themselves from letting their job performance suffer when dealing with the physical, emotional exhaustion, and feelings of ineffectiveness caused by excessive and prolonged stress.

Supporting the notion of cynicism as a coping strategy, Taris et al.'s (2005) study provided longitudinal evidence from data derived from two Dutch samples of 1,185 oncology care providers and teachers. Their findings revealed that high levels of exhaustion triggered high levels of depersonalization, which is consistent with previous studies (i.e., Lee & Ashforth, 1993; Leiter & Maslach, 1988). Research (e.g., Golembiewski, Munzenrider, & Stevenson, 1986; Leiter & Maslach, 1988) has proposed the causal relationships among Maslach et al.'s (1996) three burnout components. However,

the relationship among the other components and organizational outcomes has not been sufficiently investigated, especially with those who are simultaneously experiencing all three symptoms of burnout. Brandes and Das (2006) proposed a non-linear relationship between the different aspects of cynical behavior and performance, emphasizing that moderate levels of cynicism can improve performance because it serves as an employee coping mechanism (yet, low and high levels of cynicism are detrimental to performance). Thus, despite cynical employees' feelings of disillusionment and frustration, they do not necessarily convert their displeasure into action, which can directly influence not only job performance, but also organizational performance (Johnson & O'Leary-Kelly, 2003).

Moreover, cynical employees may have an experienced, critical eye, which could be a positive force for change (Brandes & Das, 2006). Due to the work insights gained from the critical analysis of prior performances, cynical employees can work better (Cutler, 2000). Brandes and Das (2006) labeled cynical employees as "closet idealists" who desire to reform and improve, but become disillusioned with their work. Empirical research supports the claim that cynical employees may positively affect organizations. Cynical employees appear to have less intention to comply with requests to engage in unethical behavior, for instance (Andersson, 1996). Reichers, Wanous, and Austin (1997) also found that more than half of the employees falling within the high cynicism rating indicated their willingness to make efforts to change. Further Cutler (2000) argued that cynical employees may accept personal responsibility for their own actions and ideas. "Towing the corporate line" without taking risks can be rather safe although it can be dull and uninspiring (Cutler, 2000; Turnbull, 1999). Demerouti et al.'s (2005) study demonstrated that the employees who depersonalized toward their customers showed that they were successful in selling products and services (i.e., satisfactory task performance). The employees also showed sufficient organizational citizenship behaviors (i.e., satisfactory contextual performance). These employees tended to take the perspective of their customers, yet they still had concern for their own problems and/or demands, necessitating the need for maintaining emotional detachment (Demerouti et al., 2005). Therefore, while emotional exhaustion and diminished professional efficacy can negatively influence employees' behavioral outcomes, it may be incorrect to propose that cynical employees will necessarily have low job performance and low prosocial behavior. The present study proposes that employees' cynicism can play a positive role in partially mediating the relationships between their emotional exhaustion and diminished professional efficacy and their job performance and prosocial behavior while those high in emotional exhaustion and diminished professional efficacy still exhibit lower levels of job performance and prosocial behavior. Given the above discussion, we formulated the following hypothesis (see also Figure 1).

Hypothesis 4: Cynicism positively and partially mediates the relationships between the two burnout components (emotional exhaustion and diminished professional efficacy) and the three outcome variables (task performance, contextual performance, and prosocial behavior), while emotional exhaustion and diminished professional efficacy have direct negative relationships with the three outcomes.

Method

This research employed a nonexperimental quantitative design to test the four hypotheses. Nonexperimental designs are useful in the early stages of research, such as in this study, for empirically testing the strength and direction of relationships among the

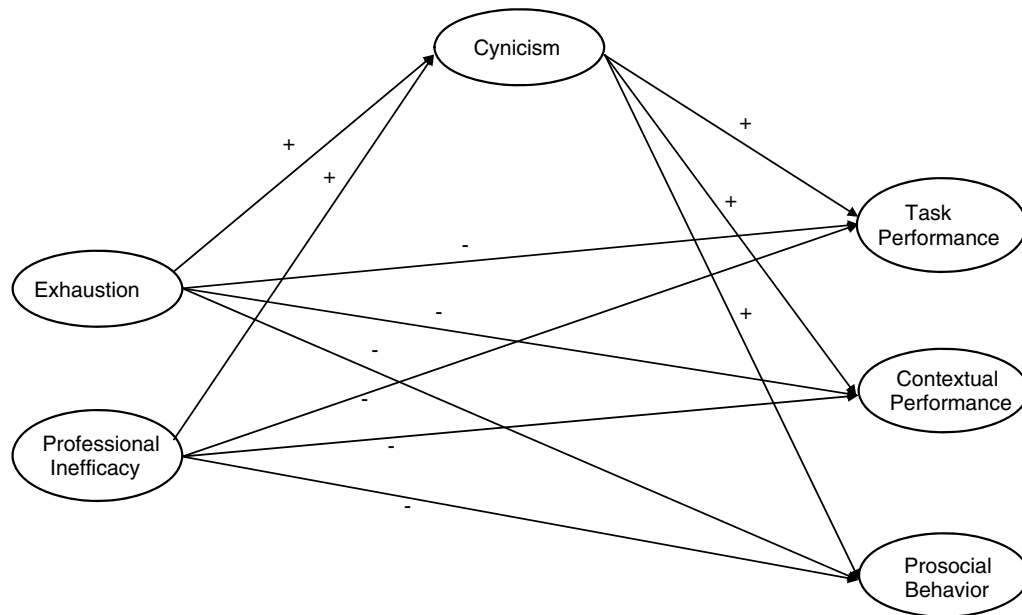


Figure 1. Conceptual Model of Hypothesized Associations of Burnout with Behavioral Outcome Variables.

research variables (Johnson, 2001). This research, in turn, could serve as the foundation for supporting future quasi-experimental and experimental studies.

Sample and Procedures

Participants were 262 working adults (a response rate of 78.8%), 44.4% men, 55.6% women; average age = 25.54 years, $SD = 7.32$, attending a large southeastern university in the United States. There are arguments for and against the use of student-recruited samples, indicating whether results obtained from student subjects of a research study are generalizable to non-student populations (Peterson & Merunka, 2014). However, numerous researchers (Demerouti & Rispens, 2014; Hochwarter, 2014; Wheeler, Shanine, Leon, & Whitman, 2014) have suggested that student-recruited sampling is a useful data collection strategy. The Wheeler et al.'s (2014) meta-analysis revealed that no substantive, demographic difference existed between student-recruited samples and non-student-recruited samples. They found few differences in the observed correlations (e.g., effect sizes), which would not lead to different practical conclusions when inferring relationships between constructs irrespective of sampling method. In addition, student-recruited samples have several advantages of increasing the heterogeneity of the participants, having students work on faculty research as an effective educational practice, reducing research budgets, and conducting studies with more elaborate research designs (Demerouti & Rispens, 2014).

The researchers administered each of the survey batteries in class over two separate times; completion time for each survey battery was roughly 15 minutes. Because this was a study of worker attitudes and beliefs as they were linked to important organizational outcomes, the independent variables were collected first, followed a month later by the dependent variables. Of the participants, 54.5% were working part-time while 45.5% were employed full-time. The majority of participants (over 80%) was working as customer and professional service providers (e.g., retail sales, cashier, hostess, recreation/sport service providers, teachers). Data showed that Hispanics made up 37.7% of the participants, 30.6% were African American, 23.8% were Caucasian, and 7.9% were

“Other.” The majority of the participants were single (77.5%) while 15.3% were married, and 7.2% were partnered.

Research Measures

Use of each of the measures employed in this research was strongly supported by the reliability and validity evidence presented by the respective instruments' authors, as well as the bulk of the research literature. The items for the measures are presented in Table 1.

Maslach Burnout Inventory. This study measured burnout using the Maslach Burnout Inventory (MBI; Maslach et al., 1996). The scale includes the three burnout dimensions: emotional exhaustion (5 items), cynicism (5 items), and professional efficacy (6 items). The burnout items were scored on a 6-point Likert-type scale from 1 (*never*) to 6 (*a few times a week*). As a high score on the professional efficacy scale demonstrated low burnout, which is opposite to the other two burnout scales where a high score demonstrated high burnout; the professional efficacy scores were reflected during the analyses to be consistent with the other two scale scores (Kline, 1998).

Job performance. The job performance scale developed by Motowidlo and Van Scotter (1994) was used to measure the participants' task performance (5 items) and contextual performance (6 items). The responses to the job performance items were assessed on a 5-point Likert-type scale from 1 (*not at all likely*) to 5 (*extreme likely*).

Prosocial behavior. Prosocial behavior was measured using a 10-item scale developed by Caprara and Pastorelli (1993). The prosocial scale assessed their degree of helpfulness, sharing, kindness, and cooperation on a 5-point Likert response format 1 (*never*) to 5 (*always*).

Demographic characteristics. The questionnaire also included four demographic questions: sex, age, ethnicity, and marital status, to address demographic characteristics of the participants.

In this study, we did not include any control variables. Methodologists recommend that researchers provide theoretical justification for the need and relevance of control variables (Atinc, Simmering, & Kroll, 2012; Schjoedt & Bird, 2014; Spector & Brannick, 2011). They noted that control variables can profoundly

Table 1
Items, Factor Reliabilities, Standardized Loadings, and t-values of the Measurement Model.

Items	Cronbach's α	Standardized factor loading	t-value		
<i>Exhaustion</i>					
	$\alpha = .92$				
1. I feel emotionally drained from my work.		.79	15.42		
2. I feel used up at the end of the workday.		.79	15.45		
3. I feel tired when I get up in the morning and have to face another day on the job.		.85	17.27		
4. Working all day is really a strain for me.		.85	17.33		
6. I feel burned out from my work.		.87	17.94		
<i>Cynicism</i>					
	$\alpha = .84$				
8. I have become less interested in my work since I started this job.		.91	19.19		
9. I have become less enthusiastic about my work.		.92	19.50		
13. I just want to do my job and not be bothered.		.47	8.06		
14. I have become more cynical about whether my work contributes anything.		.59	10.53		
15. I doubt the significance of my work.		.55	9.55		
<i>Professional Efficacy</i>					
	$\alpha = .78$				
5. I can effectively solve the problems that arise in my work.		.44	7.07		
7. I feel I am making an effective contribution to what this organization does.		.64	10.92		
10. In my opinion, I am good at my job.		.62	10.40		
11. I feel exhilarated when I accomplish something at work.		.67	11.52		
12. I have accomplished many worthwhile things in this job.		.72	12.61		
16. At my work, I feel confident that I am effective at getting things done.		.60	10.14		
<i>Task Performance</i>					
	$\alpha = .74$				
1. Use problem solving skills		.53	8.90		
2. Perform administrative tasks		.45	7.61		
3. Have a good overall technical performance		.42	6.90		
4. Plan your work		.82	15.54		
5. Organize your work		.86	16.65		
<i>Contextual Performance</i>					
	$\alpha = .82$				
6. Cooperate with others in a team		.73	13.16		
7. Persist in overcoming obstacles to complete a task		.74	13.59		
8. Look for a challenging assignment/task		.56	9.42		
9. Pay attention to important details		.64	11.19		
10. Support and encourage a coworker with a problem		.62	10.62		
11. Work well with others		.70	12.50		
<i>Prosocial Behavior</i>					
	$\alpha = .86$				
1. I try to make sad people happier		.61	10.70		
2. I spend time with my friends		.53	9.08		
3. I try to help others		.72	13.27		
4. I am gentle		.66	11.78		
5. I share things I like with my friends		.72	13.18		
6. I help others with their work		.76	14.24		
7. I let others use my things		.66	11.66		
8. I like to work with others		.56	9.67		
9. I trust others		.53	8.98		
10. I hug my friends		.52	8.71		
Goodness-of-fit measures					
	CFI	NNFI	IFI	RMSEA	RMR
S-B $\chi^2(df = 614) = 1482.88, (p = .00)$.92	.91	.92	.071	.069

Note. All professional efficacy items are reverse scored.

change the relationships between the independent variables and the dependent variables and controlling for the confounding influence of the extraneous variables on the predictor variables does not control for the confounding effect of the control variables on the criterion variable and vice versa. This indicates that using control variables can be problematic and may invalidate the research findings. Thus, no control variables were included in this study.

Data Analysis

Because the data were self-reported, where information was collected from the same sources, the Harman single-factor test was employed as a diagnostic tool to assess the presence of common method variance bias (CMV; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Confirmatory factor analysis (CFA) was used to verify how well the variables defined their respective constructs (Guarino, 2004) using the LISREL 8.72 program. To examine the reliability of the data, the internal consistency estimates were calculated with

Cronbach's alpha for the items selected to represent the variables (Brown, 2002). Structural equation modeling (SEM) was then performed to test the research hypotheses, assessing how well the data fit the proposed model (see Figure 1).

Results

Harman's Single-factor Test

According to Malhotra, Kim, and Patil (2006) and Podsakoff et al. (2003), two criteria can lead to the presence of CMV, if (a) a single strong factor emerges from an exploratory factor analysis or (b) a first factor accounts for the majority of the variance in the variables. However, the Harman single-factor results showed there were nine factors with eigenvalues greater than 1 and thus no single factor accounted for the majority of the variance as the factors ranged from 2.87% to 21.70%. Consequently, this indicates that CMV was

unlikely to be a major source of the variations in the observed items of the present study.

Measurement Model

The measurement model included 37 items comprising the three burnout components of exhaustion, cynicism, and professional efficacy, the two constructs of task performance and contextual performance, and prosocial behavior. The CFA results indicated that the items for each construct significantly loaded on their corresponding construct with their factor loadings above .4 for the respective manifest variables (see Table 1). The chi-square test was significant ($\chi^2 = 1482.88$, $df = 614$, $p < .01$), which is regarded as unacceptable. However, the chi-square test of absolute model fit is affected by large sample sizes and non-normality in the underlying distribution of the input variables (Kline, 1998). Other measures of fit were thus used to examine the overall fit of the model to the data. The alternative fit indices indicated that the measurement model had a reasonable fit to the data: RMSEA = .071, CFI = .92, NNFI = .91, IFI = .92 and RMR = .069. The RMSEA met the recommended criteria of .08 or less (Steiger, 1998) for a reasonable fit. The CFI, the NNFI, and the IFI all exceeded the minimum cut-off of .90 (Kelloway, 1998; Kline, 1998). The RMR value was also acceptable with the recommended criteria of .08 or less (Browne & Cudeck, 1993). Therefore, the results indicated that the measurement model achieved an adequate fit for the proposed factor dimensions, providing evidence of factorial validity and convergent validity of the study's measurement (Bagozzi & Yi, 1988).

The reliability measurements were found to be above an acceptable level. Cronbach's alpha ranged from .74 to .92, exceeding the minimum level (.70) recommended by Nunnally and Bernstein (1994). The Cronbach's coefficients for the three burnout components of exhaustion, cynicism, and professional efficacy were .92, .84, and .78, respectively. The Cronbach's alpha values for task performance and contextual performance, and prosocial behavior were .74, .82, and .86, respectively. The internal consistency estimates of the variables are shown in Table 1.

Table 2 presents the intercorrelations among the burnout and job performance variables along with their means and standard deviations. Most of the correlations were significant and in the direction suggested by theory and research; even the highest correlation of .58 between task performance and contextual performance resulted in a shared variance of only 33.6 percent. The results therefore suggested preliminarily that the three burnout components and the two job performance constructs were sufficiently distinct from each other and that they represented unique constructs.

Structural Models (Testing Hypotheses)

Hypothesis 1. The SEM results showed that the model addressing the negative relationships of emotional exhaustion with the three outcome variables had a reasonable fit to the data. Although the chi-square value ($\chi^2 = 811.95$, $df = 293$, $p < .01$) was significant, other fit indices indicated a good fit of the model (RMSEA = .080,

CFI = .93, NNFI = .92, IFI = .93, RMR = .069). The direct negative effect of exhaustion with contextual performance was accepted ($\beta = -.18$; $p < .01$), while the relationships of exhaustion with task performance and prosocial behavior were not significant. Thus, the first hypothesis was partially supported.

Hypothesis 2. The results revealed that the model had a marginally acceptable fit to the data (RMSEA = .082, CFI = .91, NNFI = .90, IFI = .91, RMR = .074), ($\chi^2 = 837.20$, $df = 293$, $p < .01$). Although the RMSEA (.082) slightly exceeded the recommended criteria of .08 (Steiger, 1998) for an acceptable fit, these types of fit indices may degrade when models enclose large numbers of variables as we tested in this research (Kenney & McCoach, 2003). In such situations, Kenny and McCoach (2003) suggest that as long as a number of other fit indices meet the criterion for being acceptable, the achieved structural model represents an acceptable fit to the data. Cynicism was found to have a significant, direct negative effect on task performance ($\beta = -.21$, $p < .01$), yet the negative relationships between cynicism and contextual performance and between cynicism and prosocial behavior were not statistically significant. Overall, the hypothesis was partially supported.

Hypothesis 3. The model with the relationships of professional inefficacy with the three outcome variables had an acceptable fit to the data as the fit indices appeared satisfactory ($\chi^2 = 879.97$, $df = 318$, $p < .01$, RMSEA = .080, CFI = .92, NNFI = .91, IFI = .92, RMR = .068). Professional inefficacy had a significant and powerful direct negative effect on task performance ($\beta = -.51$, $p < .001$), contextual performance ($\beta = -.41$, $p < .001$), and prosocial behavior ($\beta = -.36$, $p < .001$). Therefore, the hypothesis was fully supported.

Hypothesis 4. According to the SEM results, the proposed model had an acceptable fit to the data ($\chi^2 = 1528.28$, $df = 617$, $p < .01$, RMSEA = .073, CFI = .91, NNFI = .91, IFI = .91, RMR = .079). Supporting the fourth hypothesis, all the relationships were found to be significant. This corroborates the notion that although emotional exhaustion and professional inefficacy have direct negative effects on the three outcome variables, cynicism plays a partial mediating role in the positive relationships between the other two burnout components and the outcome variables (see Figure 2).

Discussion

Burnout has been linked to a large array of meaningful organizational outcomes (e.g., Bakker et al., 2004; Chiaburu et al., 2013; Demerouti et al., 2005; DeWall et al., 2008; Naus et al., 2007; Shoss et al., 2016). For the purpose of this research, we investigated hypothesized associations among the three burnout components (Maslach et al., 1996) and three outcomes: task performance, contextual performance, and prosocial behavior. Overall, through the SEM analyses, the findings demonstrated support for the notion that emotional exhaustion and professional inefficacy had a significant negative, direct effect on each of the dependent variables. Further, emotional exhaustion and professional inefficacy also demonstrated an indirect effect on the dependent variables through the cynicism variable.

The first aim of this research was to test whether Maslach et al.'s (1996) three burnout components were associated with the three organizational outcomes examined in this research. The results of the correlational analyses and initial SEM analyses revealed that the three burnout components were indeed negatively associated with task performance, contextual performance, and prosocial behavior, as predicted by the bulk of the extant literature (e.g., Bakker et al., 2004; Wright & Cropanzano, 1998). The intercorrelations were in the direction and strength as predicted. The initial SEM analyses also demonstrated partial support for the direct negative effects of the burnout variables on the dependent variables. We found a direct negative effect of emotional exhaustion on

Table 2
Descriptive Statistics and Correlations for All Variables.

	Mean	SD	1	2	3	4	5	6
1. Exhaustion	2.65	1.37	–					
2. Cynicism	1.88	1.37	.56**	–				
3. Professional Inefficacy	1.81	0.81	-.04	.32**	–			
4. Task Performance	4.13	0.92	-.08	-.19**	-.40**	–		
5. Contextual Performance	4.18	0.66	-.17**	-.14*	-.33**	.58**	–	
6. Prosocial Behavior	3.88	0.61	-.11	-.08	-.28**	.25**	.32**	–

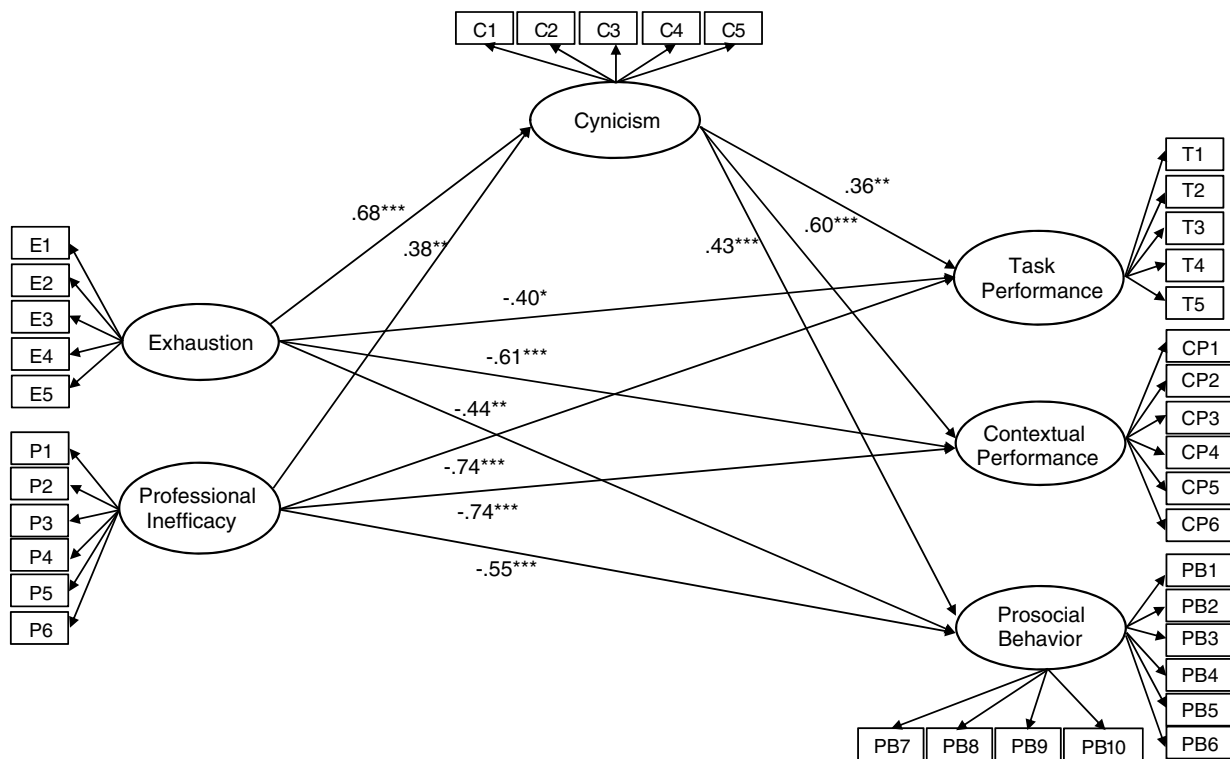


Figure 2. Results from SEM Analysis for the Proposed Model.

* $p < .05$, ** $p < .01$, *** $p < .001$.

contextual performance, but not task performance and prosocial behavior. We also found a direct negative effect of cynicism on task performance, but not contextual performance or prosocial behavior. Finally, we discovered that professional inefficacy demonstrated a strong, negative direct effect on task and contextual performance and prosocial behavior. Similar to Leiter and Maslach's (2009) work, these findings support the idea that each burnout component may play a differential, but important role in predicting performance and prosocial behavior. Noteworthy was that professional inefficacy demonstrated the strongest relation with the dependent variables, supporting the notion that efficaciousness beliefs related to one's reduced ability and sense of inadequacy on the job can be powerful negative predictors of performance and, as Xu et al. (2012) found, prosocial behavior.

The second aim of this study was to test a conceptual model with hypothesized direct and indirect relationships with the dependent variables to determine if emotional exhaustion's and professional inefficacy's association with task and contextual performance and prosocial behavior was mediated or "carried" through the cynicism variable. Thus, both emotional exhaustion and professional inefficacy were hypothesized to be indirectly related to the dependent variables through the cynicism variable. The SEM results were such that statistically significant results were found to support Leiter's (1993) notion that emotional exhaustion and professional inefficacy proceeded in parallel fashion, as they both demonstrated strong, independent direct effects on each of the dependent variables. Further, because cynicism partially mediated the relation between emotional exhaustion and the dependent variables in the model, Leiter's prediction that emotional exhaustion occurs first, which subsequently leads to cynical attitude as a coping strategy was also supported. As a further extension of Leiter's work, professional inefficacy also elicited a cynical coping strategy. The cynical coping strategy in this model was such that it demonstrated, after controlling for emotional exhaustion and professional inefficacy, strong, positive relations with task performance, contextual

performance, and prosocial behavior. Thus, consistent with Leiter's (1993) and Brandes and Das's (2006) theoretical work, by developing a cynical coping strategy in response to being emotionally exhausted and professionally inefficient, it functioned as a protective mechanism to support increased, rather than reduced job performance and prosocial behavior. As for no relationship between emotional exhaustion and professional inefficacy found in the model, this study supports Leiter's (1993) mixed sequential and parallel development model. Professional inefficacy is likely to develop in parallel with the other two burnout components because the lack of efficacy seems to emerge from a lack of relevant resources while exhaustion and cynicism arise from work overload and social conflict. Individuals' sense of accomplishment seems to be irrelevant to their feelings of exhaustion.

Limitations and Recommendations for Future Research

As with any research study, there were limitations. First, because the results were collected through nonexperimental means, causality could not be inferred. Second, because the sample was drawn from a single university setting in the southeastern United States, and was somewhat over-represented by females and Hispanic students, the results should not be generalized but very cautiously beyond this study. Future organizational research should be designed to include more proportionally representative samples (e.g., Asians) that include a more equal age group and gender balance to allow for investigating theoretically relevant age and gender differences. The conceptual model, although strongly directed by theory and research, should be tested also longitudinally as this was a cross-sectional study. This study used independent variables which were collected first and dependent variables collected a month later, but a reverse causality concern may exist because all three burnout components including cynicism, which we tested as a mediator, were measured at the same time. The longitudinal studies would allow for further confirmation of the strength

and direction of relations found among the variables and test the mediating effects of cynicism over time. This new information could enrich what we already knew about [Leiter's \(1993\)](#) propositions that emotional exhaustion leads into cynicism as a positive coping strategy, but also our new finding that professional inefficacy can also lead into cynicism as a powerful, positive coping strategy. Moreover, experimental or quasi-experimental research could be designed to test interventions related to reducing emotional exhaustion and professional inefficacy and determining each variable's effect on job performance or prosocial behavior. If prudent ways could be found to dampen the likelihood of each kind of burnout (e.g., eliminating stressors, increasing control), performance and prosocial behavior should increase to the benefit of all. Perhaps a mentoring program where mentors trained to be skilled at both coaching and counseling strategies could be designed to protect against burnout. Moreover, new mediator and moderator variables could be examined as a further extension of this work. For instance, differing coping strategies could be examined as mediators and organizational climate and culture could be examined as moderators of the relationships between the independent and dependent variables tested in this research (see [Garnett et al., 2008](#)). The conceptual model should be tested too with additional significant outcome variables like engagement, organizational commitment, workplace adaptation, turnover intent, and incivility, as burnout has been shown to negatively influence a wide range of organizational outcomes (e.g., [Cordes & Dougherty, 1993](#); [Demerouti et al., 2014](#); [Doi, 2005](#); [Van Emmerick, Jawahar, & Stone, 2005](#)). Testing health-related outcomes like high blood pressure and gastrointestinal ailments (e.g., ulcer), suicidal ideation, disturbed sleep, impaired cognition, and debilitating anxiety would also be a significant contribution to what we know about the degree to which the mixed sequential and parallel development model ([Leiter, 1993](#)) tested in this research predicts such distal outcomes. Lastly, this study used a self-report measure for job performance, which may lead to biased results. Self-report measures raise concerns about the accuracy of respondents' perceptions of their symptoms, behaviors, cognitions, and emotion ([Dreer, Jackson, & Elliott, 2005](#)). Therefore, future research should use multisource performance rating systems and measure the interrater agreement and the internal construct validity of the ratings.

Implications for Practice

The results of this study have practical significance for organizational professionals because it has a number of practical applications for how they might handle employees' burnout in the workplace. First, by using the final conceptual model as a guide, we can see a number of possible important leverage points that could be used by managers and human resource professionals to improve job performance and facilitate prosocial behavior. By introducing organizational practices that are designed to reduce unreasonable job demands (e.g., excessive workload, role uncertainty, unsupportive supervisor) and increase job resources (e.g., appropriate performance feedback, autonomy), for instance, employees might be assisted in their efforts to meet job demands and attain salient personal and organizational goals. Importantly, these practices are not necessarily costly to the organization. For example, a supervisor could easily be more supportive by making the employee's workload more manageable and clarifying role-related expectations, as well as providing timely and appropriate performance feedback and allowing for increased autonomy. In doing so, the employee would not feel overtaxed, frustrated, and inefficient professionally; thus, they would less likely suffer from burnout. Thus, in a practical sense, we present empirical evidence that implementing ways to reduce the scores on two of [Maslach et al.'s](#)

(1996) burnout components, emotional exhaustion and professional inefficacy, might logically yield vital, positive individual- and organizational-level outcomes.

We also cannot overlook that the present study provided evidence that cynicism can play a positive role in alleviating the negative association of burnout with job outcomes. Because cynicism can be a way to alleviate employees' work frustrations and stress, attempts to totally squash cynicism at work may be not only ineffective but harmful ([Brandes & Das, 2006](#)). Thus, training managers and employees to use appropriate levels of cynicism (i.e., too much cynicism could be perceived to be counterproductive and uncivil), guided by organizational behavioral norms for mutual respect ([Reio & Sanders-Reio, 2011](#)), as a coping strategy to manage daily stressors might be another means to reduce the likelihood of negative outcomes associated with being emotionally exhausted and professionally inefficient.

Conclusions

Guided by the conceptual model underpinning this research, we found support for using both [Maslach et al.'s \(1996\)](#) three-dimensional and [Leiter \(1993\)](#) developmental process burnout theories to predict the relationships among the emotional exhaustion, cynicism (depersonalization), and professional inefficacy burnout components and job performance and prosocial behavior. Overall, each of the burnout measures differentially predicted the dependent variables; professional inefficacy was the most powerful predictor of performance and prosocial behavior in the SEM models. Cynicism was also found to positively mediate the link between emotional exhaustion and professional inefficacy and the dependent variables, indicating that cynicism might be a protective coping strategy to defend against the negative influences of the emotional exhaustion and professional inefficacy types of burnout. Cynicism was a powerful mediator to the degree that a standard deviation increase in cynicism, with all else being controlled, corresponded with a .36, .60, and .43 increases in task performance, contextual performance, and prosocial behavior, respectively. Future research would be required to test the model presented in this study in new types of organizational settings with proportional representation by demographic characteristics, such as age, gender, and ethnicity. The practical utility of these findings should encourage organizational professionals to consider cost-effective means to reduce employee emotional exhaustion and professional inefficacy and explore appropriate levels of cynicism as a protective coping strategy to reduce the likelihood of dampening job performance and prosocial behavior.

Conflict of Interest

The authors of this article declare no conflict of interest.

References

- Andersson, L. M. (1996). Employee cynicism: An examination using a contract violation framework. *Human Relations, 49*, 1395–1418. <http://dx.doi.org/10.1177/001872679604901102>
- Ângelo, R. P., & Chambel, M. J. (2014). The role of proactive coping in the Job-Demands-Resources model: A cross-section study with firefighters. *European Journal of Work and Organizational Psychology, 23*, 203–216. <http://dx.doi.org/10.1080/1359432X.2012.728701>
- Atinc, G., Simmering, M. J., & Kroll, M. J. (2012). Control variable use and reporting in macro and micromanagement research. *Organization Research Methods, 15*, 57–74. <http://dx.doi.org/10.1177/1094428110397773>
- Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science, 16*, 74–94. <http://dx.doi.org/10.1007/BF02723327>
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology, 22*, 309–328. <http://dx.doi.org/10.1108/02683940710733115>

- Bakker, A. B., Demerouti, E., de Boera, E., & Schaufelia, W. B. (2003). Job demands and job resources as predictors of absence duration and frequency. *Journal of Vocational Behavior*, 62, 341–356. [http://dx.doi.org/10.1016/S0001-8791\(02\)00030-1](http://dx.doi.org/10.1016/S0001-8791(02)00030-1)
- Bakker, A. B., Demerouti, E., & Verbeke, W. (2004). Using the job demands–resources model to predict burnout and performance. *Human Resource Management*, 43, 83–104. <http://dx.doi.org/10.1002/hrm.20004>
- Bhagat, R. S., Allie, S. M., & Ford, D. L. (1995). Coping with stressful life events: An empirical analysis. In R. Crandall, & P. L. Perrewe (Eds.), *Occupational stress: A handbook* (pp. 93–112). Philadelphia, PA: Taylor and Francis.
- Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmidt, W. C. Borman, A. Howard, A. Kraut, D. Ilgen, B. Schneider, & S. Zedeck (Eds.), *Personnel selection in organizations* (pp. 71–98). San Francisco, CA: Jossey-Bass.
- Borman, W. C., & Motowidlo, S. J. (1997). Task performance and contextual performance: The meaning for personnel selection research. *Human Performance*, 10, 99–109. <http://dx.doi.org/10.1207/s15327043hup1002.3>
- Brandes, P., Castro, S., James, M. S. L., Martinez, A. D., Matherly, T. A., Ferris, G. R., & Hochwater, W. A. (2008). The interactive effects of job insecurity and organizational cynicism on work effort following a layoff. *Journal of Leadership & Organizational Studies*, 14, 233–247. <http://dx.doi.org/10.1177/1071791907311967>
- Brandes, P., & Das, D. (2006). Locating behavioral cynicism at work: Construct issues and performance implications. *Research in Occupational Stress and Well Being*, 5, 233–266. [http://dx.doi.org/10.1016/S1479-3555\(05\)05007-9](http://dx.doi.org/10.1016/S1479-3555(05)05007-9)
- Brief, A. P., & Motowidlo, S. J. (1986). Prosocial organizational behaviors. *Academy of Management Review*, 11, 710–725. <http://dx.doi.org/10.5465/AMR.1986.4283909>
- Brown, J. D. (2002). The Cronbach alpha reliability estimate. *JALT Testing & Evaluation SIG Newsletter*, 6, 17–18.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen, & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). CA: Sage: Beverly Hills.
- Caprara, G. V., & Pastorelli, C. (1993). Early emotional instability, prosocial behaviour, and aggression: Some methodological aspects. *European Journal of Personality*, 7, 19–36. <http://dx.doi.org/10.1002/per.2410070103>
- Cartwright, S., & Holmes, N. (2006). The meaning of work: The challenge of regaining employee engagement and reducing cynicism. *Human Resource Management Review*, 16, 199–208. <http://dx.doi.org/10.1016/j.hrmr.2006.03.012>
- Chiaburu, D. S., Peng, A. C., Oh, I., Banks, G. C., & Lomeli, L. C. (2013). Antecedents and consequences of employee organizational cynicism: A meta-analysis. *Journal of Vocational Behavior*, 83, 181–197. <http://dx.doi.org/10.1016/j.jvb.2013.03.007>
- Cordes, C., & Dougherty, T. (1993). A review and an integration of research on job burnout. *Academy of Management Review*, 18, 621–656. <http://dx.doi.org/10.5465/AMR.1993.9402210153>
- Cutler, I. (2000). The cynical manager. *Management Learning*, 31, 295–312. <http://dx.doi.org/10.1177/1350507600313002>
- Demerouti, E., Bakker, A. B., & Leiter, M. (2014). Burnout and job performance: The moderating role of selection, optimization, and compensation strategies. *Journal of Occupational Health Psychology*, 19, 96–107. <http://dx.doi.org/10.1037/a0035062>
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands–resources model of burnout. *Journal of Applied Psychology*, 86, 499–512. <http://dx.doi.org/10.1037/0021-9010.86.3.499>
- Demerouti, E., & Rispens, S. (2014). Improving the image of student-recruited samples: A commentary. *Journal of Occupational and Organizational Psychology*, 87, 34–41. <http://dx.doi.org/10.1111/joop.12048>
- Demerouti, E., Verbeke, W. J. M. I., & Bakker, A. B. (2005). Exploring the relationship between a multidimensional and multifaceted burnout concept and self-rated performance. *Journal of Management*, 31, 186–209. <http://dx.doi.org/10.1177/0149206304271602>
- DeWall, C. N., Baumeister, R. F., Gailliot, M. T., & Maner, J. K. (2008). Depletion makes the heart grow less helpful: Helping as a function of self-regulatory energy and genetic relatedness. *Personality and Social Psychology Bulletin*, 34, 1653–1662. <http://dx.doi.org/10.1177/0146167208323981>
- Doi, Y. (2005). An epidemiologic review on occupational sleep research among Japanese workers. *Industrial Health*, 43, 3–10. <http://dx.doi.org/10.2486/indhealth.43.3>
- Dovidio, J. F., Piliavin, J. A., Gaertner, S. L., Schroeder, D. A., & Clark, R. D., III. (1991). The Arousal: Cost-Reward Model and the process of intervention: A review of the evidence. In M. S. Clark (Ed.), *Review of personality and social psychology Vol. 12. Prosocial behavior* (pp. 86–118). CA: Sage: Newbury Park.
- Dreer, L. E., Jackson, W. T., & Elliott, T. R. (2005). Social problem solving, personality disorder, and substance abuse. In R. McMurran, & J. McGuire (Eds.), *Social problem solving and offending: Evidence evaluation and evolution* (pp. 67–90). Hoboken, NJ: John Wiley & Sons Inc.
- Freudenberger, H. J. (1974). Staff burnout. *Journal of Social Issues*, 30, 159–165. <http://dx.doi.org/10.1111/j.1540-4560.1974.tb00706.x>
- Garnett, J. L., Marlowe, J., & Pandey, S. K. (2008). Penetrating the performance predicament: Communication as a mediator or moderator of organizational culture's impact on public organizational performance. *Public Administration Review*, 68, 266–280. <http://dx.doi.org/10.1111/j.1540-6210.2007.00861.x>
- Gholami, T., Pahlavian, A. H., Akbarzadeh, M., Motamedzade, M., & Moghaddam, R. H. (2016). The role of burnout syndrome as a mediator for the effect of psychosocial risk factors on the intensity of musculoskeletal disorders: a structural equation modeling approach. *International Journal of Occupational Safety and Ergonomics*, 22, 283–290. <http://dx.doi.org/10.1080/10803548.2016.1147876>
- Golembiewski, R. T., Munzenrider, R. F., & Stevenson, J. G. (1986). *Phases of burnout: developments in concepts and applications*. New York: NY: Praeger.
- Guarino, A. J. (2004). A comparison of first and second generation multivariate analyses: canonical correlation analysis and structural equation modeling. *Florida Journal of Educational Research*, 42, 22–40.
- Hakanen, J. J., & Koivumäki, J. (2014). Engaged or exhausted – How does it affect dentists' clinical productivity? *Burnout Research*, 1, 12–18.
- Hochwarter, W. (2014). On the merits of student-recruited sampling: Opinions a decade in the making. *Journal of Occupational and Organizational Psychology*, 87, 27–33. <http://dx.doi.org/10.1111/joop.12043>
- Hockey, G. R. J. (1993). Cognitive-energetical control mechanisms in the management of work demands and psychological health. In A. D. Baddeley, & L. Weiskrantz (Eds.), *Attention: Selection, awareness, and control* (pp. 328–345). Oxford, England: Oxford University Press.
- Jaworek, M., Marek, T., Karwowski, W., Andrzejczak, C., & Genaidy, A. M. (2010). Burnout syndrome as a mediator for the effect of work-related factors on musculoskeletal complaints among hospital nurses. *Journal of Industrial Ergonomics*, 40, 368–375. <http://dx.doi.org/10.1016/j.ergon.2010.01.006>
- Johnson, B. (2001). Toward a new classification of nonexperimental research. *Educational Researcher*, 30, 3–13. <http://dx.doi.org/10.3102/0013189X030002003>
- Johnson, J. L., & O'Leary-Kelly, A. (2003). The effect of psychological contract breach and organizational cynicism: Not all social exchange violations are created equal. *Journal of Organizational Behavior*, 24, 627–647. <http://dx.doi.org/10.1002/job.207>
- Keijsers, G. J., Schaufeli, W. B., Le Blanc, P. M., Zwerts, C., & Reis-Miranda, D. (1995). Performance and burnout in intensive care units. *Work & Stress*, 9, 513–527. <http://dx.doi.org/10.1080/02678379508256897>
- Kelloway, E. K. (1998). *Using LISREL for structural equation modeling: A researcher's guide*. CA: Sage: Thousand Oaks.
- Kenny, D. A., & McCoach, D. B. (2003). Effect of the number of variables on measures of fit in structural equation modeling. *Structural Equation Modeling*, 10, 333–351. <http://dx.doi.org/10.1207/S15328007SEM1003.1>
- Kline, R. B. (1998). *Principles and practice of structural equation modeling*. New York: NY: Guilford.
- Lee, R. T., & Ashforth, B. E. (1993). A longitudinal study of burnout among supervisors and managers: Comparisons between the Leiter and Maslach (1988) and Golembiewski et al (1986) models. *Organizational Behavior and Human Decision Processes*, 54, 369–398. <http://dx.doi.org/10.1006/obhd.1993.1016>
- Leiter, M. P. (1993). Burnout as a developmental process: Consideration of models. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 237–250). London: Taylor & Francis.
- Leiter, M. P., & Maslach, C. (1988). The impact of interpersonal environment on burnout and organizational commitment. *Journal of Organizational Behavior*, 9, 297–308. <http://dx.doi.org/10.1002/job.4030090402>
- Leiter, M. P., & Maslach, C. (2009). Nurse turnover: The mediating role of burnout. *Journal of Nursing Management*, 17, 331–339. <http://dx.doi.org/10.1111/j.1365-2834.2009.01004.x>
- Malhotra, N. K., Kim, S. S., & Patil, A. (2006). Common method variance in IS research: A comparison of alternative approaches and a reanalysis of past research. *Management Science*, 52, 1865–1883. <http://dx.doi.org/10.1287/mnsc.1060.0597>
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *The Maslach Burnout Inventory manual* (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Mirvis, P., & Kanter, D. L. (1989). Combating cynicism in the workplace. *National Productivity Review*, 8, 377–394. <http://dx.doi.org/10.1002/npr.4040080406>
- Mirvis, P., & Kanter, D. L. (1991). Beyond demography: A psychographic profile of the workforce. *Human Resource Management*, 30, 45–68. <http://dx.doi.org/10.1002/hrm.3930300104>
- Motowidlo, S. J., & Van Scotter, J. R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology*, 79, 475–480. <http://dx.doi.org/10.1037/0021-9010.79.4.475>
- Naus, F., Van Iterson, A., & Roe, R. A. (2007). Organizational cynicism: Extending the exit, voice, loyalty, and neglect model of employees' responses to adverse conditions in the workplace. *Human Relations*, 60, 683–718. <http://dx.doi.org/10.1177/0018726707079198>
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- Parker, P. A., & Kulik, J. A. (1995). Burnout, self- and supervisor-related job performance, and absenteeism among nurses. *Journal of Behavioral Medicine*, 18, 581–599. <http://dx.doi.org/10.1007/BF01857897>
- Peterson, R. A., & Merunka, D. R. (2014). Convenience samples of college students and research reproducibility. *Journal of Business Research*, 67, 1035–1041. <http://dx.doi.org/10.1016/j.jbusres.2013.08.010>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioural research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879–903. <http://dx.doi.org/10.1037/0021-9010.88.5.879>
- Randall, M., & Scott, W. A. (1988). Burnout, job satisfaction, and job performance. *Australian Psychologist*, 23, 335–347. <http://dx.doi.org/10.1080/00050068808255616>
- Reichers, A. E., Wanous, P., & Austin, J. T. (1997). Understanding and managing cynicism about organizational change. *The Academy of Management Executive*, 11, 48–49. <http://dx.doi.org/10.5465/AME.1997.9707100659>
- Reio, T. G., Jr., & Sanders-Reio, J. (2011). Thinking about workplace engagement: Do supervisor and coworker incivility really matter. *Advances in Developing Human Resources*, 13, 462–478. <http://dx.doi.org/10.1177/1523422311430784>

- Rotundo, M., & Sackett, P. R. (2002). The relative importance of task, citizenship, and counterproductive performance to global aspects of job performance: A policy- capturing approach. *Journal of Applied Psychology*, *87*, 66–80. <http://dx.doi.org/10.1037/0021-9010.87.1.66>
- Schjoedt, L., & Bird, B. (2014). Control variables: Use, misuse and recommended use. In Carsrud, & M. Brännback (Eds.), *Handbook of research methods and applications in entrepreneurship and small business* (pp. 136–155). Northampton, MA: Elgar Publishing.
- Shoss, M. K., Jiang, L., & Probst, T. M. (2016). Bending without breaking: A two-study examination of employee resilience in the face of job insecurity. *Journal of Occupational Health Psychology*. Advance online publication., <http://dx.doi.org/10.1037/ocp0000060>
- Shuck, M. B., & Reio, T. G., Jr. (2014). Employee engagement and wellbeing: A moderation model and implications for practice. *Journal of Leadership & Organizational Studies*, *21*, 43–58. <http://dx.doi.org/10.1177/1548051813494240>
- Spector, P. E., & Brannick, M. T. (2011). Methodological Urban Legends: The Misuse of Statistical Control Variables. *Organizational Research Methods*, *14*, 287–305. <http://dx.doi.org/10.1177/1094428110369842>
- Steiger, J. H. (1998). A note on multiple sample extensions of the RMSEA fit index. *Structural Equation Modeling*, *5*, 411–419. <http://dx.doi.org/10.1080/10705519809540115>
- Swider, B. W., & Zimmerman, R. D. (2010). Born to burnout: A meta-analytic path model of personality, job burnout, and work outcomes. *Journal of Vocational Behavior*, *76*, 487–506.
- Taris, T. W. (2006). Is there a relationship between burnout and objective performance? A critical review of 16 studies. *Work & Stress*, *20*, 316–334. <http://dx.doi.org/10.1080/02678370601065893>
- Taris, T. W., LeBlanc, P. M., Schaufeli, W. B., & Schreurs, P. J. G. (2005). Are there causal relationships between the dimensions of the Maslach Burnout Inventory? A review and two longitudinal tests. *Work & Stress*, *19*, 238–255. <http://dx.doi.org/10.1080/02678370500270453>
- Turnbull, W. (1999). Emotional labour in corporate change programmes. *Human Resource Development International*, *2*, 125–146. <http://dx.doi.org/10.4135/9781446261750>
- Van Emmerick, H., Jawahar, I. M., & Stone, T. H. (2005). Associations among altruism, burnout dimensions, and organizational citizenship behaviour. *Work & Stress*, *19*, 93–100. <http://dx.doi.org/10.1080/02678370500046283>
- Wheeler, A. R., Shanine, K. K., Leon, M. R., & Whitman, M. V. (2014). Student-recruited samples in organizational research: A review, analysis, and guidelines for future research. *Journal of Occupational and Organizational Psychology*, *87*, 1–26. <http://dx.doi.org/10.1111/joop.12042>
- Wilkerson, J. M. (2002). Organizational cynicism and its impact on human resource management. In G. R. Ferris, M. R. Buckley, & D. B. Fedor (Eds.), *Human resources management: Perspectives, context, functions, and outcomes* (pp. 532–546). Upper Saddle River, NJ: Prentice Hall.
- Wilkerson, J. M., Evans, W. R., & Davis, W. D. (2008). A test of coworkers' influence on organizational cynicism, badmouthing, and organizational citizenship behavior. *Journal of Applied Social Psychology*, *38*, 2273–2292. <http://dx.doi.org/10.1111/j.1559-1816.2008.00391.x>
- Wright, T. A., & Bonett, D. G. (1997). The contribution of burnout to work performance. *Journal of Organizational Behavior*, *18*, 491–499. [http://dx.doi.org/10.1002/\(SICI\)1099-1379\(199709\)18:53.0.CO;2-I](http://dx.doi.org/10.1002/(SICI)1099-1379(199709)18:53.0.CO;2-I)
- Wright, T. A., & Cropanzano, R. (1998). Emotional exhaustion as a predictor of job performance and voluntary turnover. *Journal of Applied Psychology*, *83*, 486–493. <http://dx.doi.org/10.1037//0021-9010.83.3.486>
- Xu, H., Bègue, L., & Bushman, D. (2012). Too fatigued to care: Ego depletion, guilt, and prosocial behavior. *Journal of Experimental Social Psychology*, *48*, 1183–1186. <http://dx.doi.org/10.1016/j.jesp.2012.03.007>