

# The Relationship Between Work Engagement and Performance: A Review of Empirical Literature and a Proposed Research Agenda

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## **Abstract**

Engagement has been defined in a variety of ways. Engagement in the workplace generally is viewed as a positive, fulfilling, affective-motivational state of work-related well-being. Due to its structural relationship between antecedents (e.g., job resources and personal resources) and consequences (e.g., performance and turnover intention), work engagement has been receiving considerable attention from both scholars and practitioners in the fields of human resource development (HRD), organization development (OD), psychology, and business. In spite of this popularity, there is a scarcity of empirical research on work engagement in the academic literature. The relationship between work engagement and performance, in particular, is deserving of attention given our field's focus on performance improvement. In this article, we review and analyze relevant research and then propose a research agenda to guide future research on this topic. Conclusions and implications for HRD and OD are discussed.

## **Keywords**

work engagement, employee engagement, performance

Increasingly scholars and practitioners in the fields of human resource development (HRD), organization development (OD), psychology, and business have become interested in positive organizational change in the workplace (Jeung, 2011; Shuck &

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Wollard, 2010). At least part of this growth stems from a belief that positive change in organizations motivates the individual and/or group to perform better and that this change and resulting motivation eventually lead to improvement in individual and organizational performance (Bakker & Demerouti, 2008; Bakker, Schaufeli, Leiter, & Taris, 2008). This belief is aligned with the postmodern organization development paradigm (Watkins & Stavros, 2010). That is, unlike the traditional OD paradigm that uses a deficit-based approach to solving problems, a strengths-based process such as appreciative inquiry (AI) looks at what is working well in organizations (Watkins & Stavros, 2010). In positive organizational change, work engagement could be viewed as an essential element in helping and facilitating employees' change and then leading to improvement in their performance.

Numerous perspectives of engagement exist (Shuck, 2011), and definitions used in academic writings reflect these perspectives as well as the purpose and context of the study being described. Bakker et al. (2008) defined work engagement as "a positive, fulfilling, affective-motivational state of work-related well-being" (p. 187). The term employee engagement, often used interchangeably with work engagement, was defined by Shuck and Wollard (2010, p. 103) as "an individual employee's cognitive, emotional, and behavioral state directed toward desired organizational outcomes." The first definition's focus on motivation and work-related well-being and the latter's focus on organizational outcomes are particularly relevant to this current study. Based on both definitions, work engagement could help employees become more deeply involved in their jobs and possibly reduce or eliminate job burnout. Thus, engagement might be viewed as a proactive and fundamental approach to organizational performance and sustainability. Because engaged workers have high levels of energy, are enthusiastic regarding their jobs, and often involve themselves deeply in their work (Macey & Schneider, 2008; May, Gilson, & Harter, 2004), they might be expected to work better and smarter. This in turn could lead to increased individual and/or group performance as well as become a strong foundation for sustainability of organizations.

With regard to antecedents of work engagement, Wollard and Shuck (2011) identified 42 antecedents through a structured literature review: 21 individual antecedents (e.g., optimism and self-esteem) and 21 organizational antecedents (e.g., feedback and supportive organizational culture). In addition, Bakker and Demerouti (2008) also suggested the job demands-resources (JD-R) model of work engagement; this model includes job resources (e.g., autonomy and performance feedback) and personal resources (e.g., self-efficacy and optimism) as antecedents of work engagement, which lead to performance improvement. Accordingly, organizations can understand and utilize various antecedents in that relationship to help and facilitate employees in becoming engaged and in maintaining the engaged status.

As mentioned, the term engagement is becoming popular among HRD professionals, internal communication practitioners, and business conference presenters (Shuck & Wollard, 2010). Practitioners' use of the term tends to focus on usability of the engagement concept and outcome measures related to increase in engagement,

although, as Shuck (2011) cautions, outcomes often are perceived rather than tested. This lack of objective outcome measures highlights the difficulties in making links to performance and makes it imperative that researchers describe clearly how performance is operationalized and measured in their studies. Engagement enjoys considerable face validity, which likely accounts for some of its popularity in businesses. Today's organizations expect their employees to be proactive and to show initiative, collaborate with others, take responsibility for their own professional development, and be committed to high quality performance standards (Bakker & Schaufeli, 2008). Hence, organizations need employees who are energetic and dedicated and who are absorbed in their jobs. In other words, organizations need engaged employees. In that context, it seems that work engagement deserves attention as a research topic and also that work engagement might be positively related to performance in organizations (Bakker & Demerouti, 2008; Baker et al., 2008; Simpson, 2009).

In spite of the popularity of work engagement and the assumption that work engagement is positively related to performance in organizations, there is a surprising lack of empirical research on work engagement in the academic literature (Saks, 2006; Shuck & Wollard, 2010). Moreover, according to Bakker and Demerouti (2008), only a few qualitative or quantitative studies have examined the relationship between work engagement and performance in organizations. Thus, a need exists to capture and describe the empirical studies that have examined this link. The gap between organizations' interest in work engagement and scholarship examining this topic provides justification for this study (Torraco, 2005). By scrutinizing extant literature that examines the relationship between work engagement and performance, we build knowledge that can contribute to HRD/OD scholarship and practice. Therefore, the two-pronged purpose of this article is to (a) analyze extant empirical studies that examine the relationship between work engagement and performance in organizations and (b) propose an agenda for future research.

This article is organized as follows: Method, review of literature, summary and recommendations, and implications and conclusions. The method section describes the framework of the study—selection of relevant literature and criteria used for selecting literature and organizing and analyzing the data. The subsequent sections of review of literature and summary and recommendations present description of the relationship from extant studies and a synthesis of findings that leads to a future research agenda. Finally, implications for HRD/OD and conclusions are discussed.

## **Method**

The literature review method was employed in this article because an integrative literature review is a distinguishing form of research that creates new knowledge about an emerging topic (Torraco, 2005). Also, according to Chermack and Passmore (2005), this approach is a key research method for summarizing the current body of literature pertinent to some phenomenon. Torraco (2005) explained that an integrative literature review should identify an appropriate topic for the review, explain why the literature

review is a suitable means, search and retrieve relevant literature, analyze and critique the literature, and finally generate a new understanding of the topic or the issue through synthesis of the literature. According to Torraco, several integrative literature reviews have made very important contributions to knowledge of HRD and related fields. This description of the literature review provides the framework of the method that follows.

### *Description of Selection Process*

Using Torraco's (2005) framework as a guide, our first step was the selection of relevant literature. With regard to the selection process, since a clear outline of a methodology is important in a literature review, the process was as follows: (a) Where articles were found, (b) when the search was conducted, (c) who performed search, (d) how the articles were found, (e) how many articles appeared and the final number of selected articles, and (f) why the articles were finally chosen (Callahan, 2010).

This study used ProQuest Multiple databases including ABI/INFORM Complete, ERIC, ProQuest Education Journals, PsycINFO, and PsycARTICLES to extract relevant articles. The initial search was conducted by the first author in June, 2012, using the databases above. In regard to keyword combinations, the focus of this article is on the relationship between work engagement and performance. Performance itself is a relatively clear and common term used by both scholars and practitioners, but the term *work engagement* could be described as employee engagement, job engagement, role engagement, or personal engagement (Kim, Park, Song, & Yoon, 2012); thus, all five terms were used to search articles. Therefore, the keyword combinations used to search relevant research articles were identified as (a) "*work engagement*," "*employee engagement*," "*job engagement*," "*role engagement*," or "*personal engagement*" and (b) *performance*. In order to ensure that articles dealt with the relationship identified, the articles were limited to those in which the exact identified terms appeared either in the abstract or title. Articles also needed to be based on empirical studies that examined the empirical relationship between engagement and performance in organizations. Moreover, this review was confined to peer-reviewed articles that were published in the English language. There was no specific time period selected. However, it should be noted that the first mention of work engagement in the academic literature was in 1990 (Shuck & Wollard, 2010).

The initial search conducted using the keyword combinations yielded 134 sources throughout the databases. Afterward, a staged review was employed to review the 134 articles and identify relevant articles. According to Torraco (2005), a staged review is one way to analyze the literature by first conducting an initial review of abstracts and then completing an in-depth review of articles. Through use of the staged review, any articles meeting the selection criteria, especially those focused on empirical study, are chosen for further review. When conducting the staged review, the focus was whether an article empirically examined the relationship between work engagement and performance. If an abstract did not clearly describe the empirical relationship and include

a research model or framework and a method section, the article was examined in depth to decide whether it met the criteria for inclusion. Even in empirical studies, if articles discussed the relationship between engagement and performance without describing measurement, those articles were removed. Also, duplicated articles were excluded. Through this staged review, 19 articles were selected for further review. Furthermore, reference lists of searched articles were examined for articles that may not have been found by electronic databases. As a result, one article that examined the relationship between work engagement and financial returns was added because authors agreed that financial returns could be regarded as an objective performance indicator. Throughout this examination of the 134 articles, 20 were finally chosen for inclusion in this review because the abstract of the articles stated an examination of the empirical relationship between engagement (i.e., work engagement [18], employee engagement [1], and job engagement [1]) and performance within organizations.

### **Data Organization and Analysis**

These 20 articles were summarized and analyzed. A summary of the literature appears in the Appendix. Articles appear in chronological order beginning with 2005. The summary includes authors, purpose, sample information, method and analysis, measures used, and key findings from the studies. We classified and examined the relationship between work engagement and performance through a lens of how work engagement has effects on performance (e.g., direct, indirect, or mediating) synthesized the studies, and developed new perspectives.

## **Review of Literature**

### **Definitions and Clarification**

Before discussing the literature, we first define specific terms used in these studies. Distinctions are made in some articles between *state work engagement* and *general work engagement*. As defined by Xanthopoulou, Bakker, Heuven, Demerouti, & Schaufeli (2008), state work engagement indicates how an individual feels at one specific point of time, whereas general work engagement is more stable and refers to how an individual consistently feels over a period of time.

*In-role* and *extra-role performance* refer to different aspects of performance. As defined by Borman and Motowidlo (1997), in-role performance includes activities that are related to employees' formal role requirements; extra-role performance refers to activities that are not part of formal role requirements but that are viewed as promoting organizational effectiveness. Next, *crossover* refers to the process that occurs when the psychological well-being of one person affects the level of psychological well-being of another individual (Westman, 2001).

Lastly, a point of clarification will serve to reduce redundancy in the description of studies that follow. In this review 17 out of 20 studies used a version of the Utrecht

Work Engagement Scale (UWES). The UWES scale (Schaufeli & Bakker, 2003; Schaufeli, Salonova, Gonzalez-Roma, & Bakker, 2002) is based on the theoretical approach of Maslach and Leiter (1997), which assumed that employees' engagement and task-related burnout comprise the opposite sides of a continuum of work related well-being, with burnout representing the negative pole and engagement the positive pole (Schaufeli & Bakker, 2003). Other versions of this scale exist and differ in how many items are included for each of the three dimensions of vigor, dedication, and absorption. In our descriptions of the articles that follow, we indicate the version used (e.g., UWES-17, 12, 9, 6 or other variations developed by individual study authors), but do not repeat the citation information.

In the following section, the empirical studies are used to construct the holistic conceptualization of the literature investigating the relationship between work engagement and performance. Details on instruments used to measure work engagement, performance, and related constructs are provided. Statistics are included in order that readers can make their individual determinations about the magnitude and importance of results. Following the description of the studies, issues from the studies are synthesized into ideas that offer new perspectives for future research.

## Overview

Among the 20 empirical studies examined for this study, 11 reported a direct or indirect relationship between work engagement and performance: Nine were direct; one was both direct and indirect; one only indirect. Seven other studies found engagement to be a mediating factor between other constructs and performance and two indicated a relationship mediated by another factor. In this section, we first discuss the eleven articles in which a direct or indirect relationship was found, beginning with the earliest reported research. Since so few studies examine actual performance in conjunction with work engagement, sufficient detail is provided to allow the reader to fully understand the context of each.

## *Direct Relationship Between Work Engagement and Performance*

Halbesleben and Wheeler (2008) collected data from 587 employees in the United States who represented a wide variety of industries and occupations. Questionnaire data from workers and their supervisors and coworkers were analyzed using confirmatory factor analysis (CFA) as well as usefulness analysis. Results showed that work engagement had significant semipartial correlations with self-rated (.02,  $p < .05$ ), supervisor-rated (.03,  $p < .05$ ), and coworker-rated performance (.02,  $p < .05$ ), which meant that work engagement had a relatively small effect on performance. In the study, work engagement was characterized by vigor, dedication, and absorption and self-reported using UWES-17, whereas performance was described by in-role performance and assessed by workers and their supervisors and coworkers using the job performance measure developed by Williams and Anderson (1991).

In research reported in 2009, Bakker and Demerouti examined the relationship between men's engagement and job performance among 525 Dutch workers: 175 women, 175 women's partners (men), and 175 men's colleagues, and tested whether empathy moderated the crossover effect of women's work engagement on men's work engagement. Three types of questionnaires were distributed to gather data, which were then analyzed by moderated structural equation modeling (MSEM). Their study revealed that men's work engagement ( $\gamma = .38, p < .01$ ), especially their dedication (in-role  $r = .22, p < .01$ ; extra-role  $r = .21, p < .01$ ), was positively related to both in-role and extra-role performance. In addition, women's work engagement had an indirect effect on men's job performance through men's work engagement (Sobel test  $z = 2.34, p < .05$ ). Work engagement was characterized by the two dimensions of vigor and dedication and was self-assessed using those two portions of the UWES-17 scale, whereas job performance was described by in-role and extra-role performance as assessed by the men's colleagues using Goodman and Svyantek's (1999) scale. Questions included *achieves objectives of the job* (in-role) and *willingly attends functions not required by the organization but helps in its overall image* (extra-role).

Bakker and Bal (2010) studied the relationship between weekly work engagement and performance. Their study aimed to examine the intraindividual relationship between work engagement, job resources, and performance among 54 Dutch teachers. Participants were asked to complete a weekly questionnaire every Friday during five consecutive weeks and the collected data were analyzed by multilevel analyses. Weekly work engagement was found to be positively related to weekly job performance ( $\gamma = .424, p < .001$ ). In addition, work engagement mediated the relationship between week-levels of job resources such as autonomy ( $z = 4.23, p < .001$ ) and opportunities for development ( $z = 3.20, p < .01$ ) and weekly performance. In the study, work engagement was self-rated using UWES-9, and performance was assessed by Goodman and Svyantek's (1999) in-role and extra-role performance scale as was the case in several studies previously described. In this study, however, performance scores were gathered both from the teachers for five weeks and from their supervisors for the first week. This study collected work engagement data and included both participants and their supervisors in the performance measure.

Gorgievski, Bakker, and Schaufeli (2010) investigated the relationship between work engagement and job performance in a sample of 1,900 employees and 262 self-employed workers in The Netherlands. A questionnaire was published on a Dutch psychology magazine website for 1.5 years, and visitors to this website were asked to complete questions related to work engagement, workaholism, and performance. The collected data were analyzed by SEM. UWES-9 was used to measure work engagement; job performance was characterized by task performance and contextual performance as assessed by Goodman and Svyantek (1999) and innovativeness Janssen (2003). Work engagement was positively related to task performance ( $\beta = .39\text{--}.44, p < .001$ ) and innovativeness ( $\beta = .24\text{--}.33, p < .001$ ) for both groups, but positively related to contextual performance ( $\beta = .42, p < .001$ ) only for employees.



Workaholism was positively and negatively related to contextual performance and innovativeness. All measures were self-report.

Balducci, Fraccaroli, and Schaufeli (2010) examined the relationship between work engagement and work performance in two samples of Italian ( $n = 668$ ) and Dutch ( $n = 2,213$ ) white-collar employees. UWES-9 was used to measure engagement; one item taken from WHO Health and Work Performance Questionnaire (HPQ; Kessler, Barber, Beck, & Berglund, 2003) was used to measure overall job performance: How would you rate your overall job performance on the days you worked over the past 4 weeks (scale 0-10)? Confirmatory factor analysis (CFA) was used to analyze data. Work engagement was found to have a positive relationship with work performance ( $r = .38, p < .001$ ). All measures were self-report.

Kirk-Brown and Dijik (2011) investigated the relationship between work engagement and work performance in 604 employees in Australia. Of these, 92 had chronic illnesses. They also looked at the mediating role of psychological safety. Hierarchical regression was used to analyze questionnaire data. UWES-17 was used to measure work engagement; a 16-item scale including organizational citizenship behavior individual (OCBI) and organization (OCBO; Lee & Allen, 2002) was used to measure performance and a 7-item scale (Baer & Frese, 2003; Edmonson, 1999) to measure psychological safety. Work engagement had a positive relationship with performance for both groups ( $\beta = .30\sim.56, p < .01$ ), but the relationship was partially mediated by psychological safety (OCBI  $z = 2.27, p < .05$ ; OCBO  $z = 3.75, p < .01$ ) only for the employees with chronic illness. All measures were self-report.

Chughtai and Buckley (2011) conducted research to scrutinize effects of trust in supervisor and trust propensity on work engagement and the mediating role of learning goal orientation between work engagement and two dimensions of job performance (i.e., in-role performance and innovative work behavior) among 168 research scientists from six Irish research centers. Participants were asked to complete a questionnaire. The self-report data were then analyzed using SEM. The results of their study found that work engagement was directly related to two dimensions of job performance (in-role performance  $\beta = .18, p < .05$ ; innovative work behavior  $\beta = .37, p < .01$ ) and also that this relationship was partially mediated by learning goal orientation (in-role performance  $z = 5.21, p < .01$ ; innovative work behavior  $z = 2.41, p < .05$ ). In their study, work engagement was characterized by vigor, dedication, and absorption and was self-assessed using the UWES-9 scale, whereas job performance was described by self-rated in-role performance as measured by Podsakoff and MacKenzie's (1989) scale and self-rated innovative work behavior (extra-role performance) as measured by Janssen's (2000) scale. Questions included *I fulfill all responsibilities required by my job* (in-role) and *how frequently do you generate original solutions to problems* (extra-role)?

Robertson, Birch, and Cooper (2012) examined relationships among employee engagement, psychological well-being, and performance among 9,930 employees in the United Kingdom. Five items of job and work attitudes by Robertson et al. (2012) were used to measure engagement; A single item by Robertson et al. (2012) was used



to measure performance and an 11-item psychological health scale (Faragher, Cooper, & Cartwright, 2004) to measure psychological well-being. Multiple regression was used to analyze questionnaire data. Employee performance (productivity) was better predicted by a combination of psychological well-being and employee engagement ( $R^2 = .17, p < .001$ ) than employee engagement ( $R^2 = .04, p < .001$ ) alone. All measures were self-report.

Bakker, Demerouti, and ten Brummelhuis (2012) examined the relationship between work engagement and performance and the moderating role of conscientiousness in 144 employees in The Netherlands. UWES-9 was used to measure work engagement; job performance was characterized by task performance and contextual performance as assessed by the Goodman and Svyantek (1999) scale. SEM was used to analyze data. Work engagement was positively related to contextual performance ( $b = .40, t = 2.54, p < .05$ ) and task performance ( $b = .45, t = 2.94, p < .01$ ), especially for employees high in conscientiousness. Supervisors rated participants' job performance; engagement data were self-report.

The following two studies indicate an indirect relationship between work engagement and performance. The first described study reported both direct and indirect linkages.

**Direct and indirect relationship.** Bakker and Xanthopoulou (2009) carried out a study to examine the crossover of daily work engagement. A total of 124 Dutch workers were asked to participate in the study: 62 employees were described as actors and 62 of their colleagues described as partners. Participants were asked to fill out a general questionnaire and complete a diary survey over five consecutive workdays. Multilevel analyses were employed to test the hypotheses, and the results showed that daily work engagement was positively related to daily task performance both for actors ( $r = .55, p < .01$ ) and partners ( $r = .48, p < .01$ ). Moreover, the interaction between daily communication and actor's work engagement had an indirect effect on partner's performance through partner's work engagement, but this was supported only for the actor's vigor. ( $t = 2.20, p < .05; z = 2.33, p < .01$ ). The implication is that actor's vigor, when communicated, would improve partner's vigor, which in turn would lead to the partner's high performance. Dimensions of daily work engagement were vigor, dedication, and absorption as measured by the authors' shortened six-item version of UWES, and daily task performance was assessed using only two items from Goodman and Svyantek's (1999) scale. All measures were self-report.

**Indirect relationship.** In the last study in this section, only an indirect relationship was found. Medlin and Green (2009) conducted a study to investigate the relationship among goal setting, work engagement, optimism, and individual performance. Data were collected from 426 full- and part-time employees in the southern United States by asking them to fill out a questionnaire. Structural equation modeling (SEM) was employed to analyze the data. Results of the study revealed that goal setting had a positive effect on work engagement (standardized coefficient [SC] = .58,  $t = 11.04, p < .01$ ), work engagement had a positive effect on workplace optimism (SC = .65,  $t = 11.17, p < .01$ ), and finally workplace optimism had a positive effect on individual

performance ( $SC = .77, t = 13.05, p < .01$ ). That is, goal setting would lead to engaged employees, engaged employees would show high levels of workplace optimism, and ultimately workplace optimism would lead to high levels of individual performance in organizations. In this study, work engagement was measured using a scale developed by Buckingham and Coffman (1999). Items include *my supervisor, or someone at work, cares about me as a person* and *the mission/purpose of my company makes me feel my job is important*. Performance was measured using the scale developed by Green, Medlin, & Whitten (2004). Items include *the level of my individual performance was excellent* and *I regularly achieve my goals*. Both were self-ratings.

**Summary.** In nine of the 11 studies reported in this section, the burnout-antithesis approach operationalized by the UWES instrument was used. This uniformity in approach is not surprising. Shuck (2011) and Schaufeli and Baker (2010) agree that the UWES is a widely used instrument to measure engagement. In addition to the linkages reported between work engagement and performance, a factor related to burnout, workaholism, was positively and negatively related to contextual performance and innovativeness (Gorgievski et al., 2010). As expected, measures of performance were more varied. Self-report was the sole measure of work performance in seven studies; others measures used were 360-degree feedback, colleagues only, supervisors only, or a combination of self- and supervisor reports.

### *Work Engagement as a Mediator*

In the seven studies discussed here, work engagement served as a mediator between other factors and performance.

Xanthopoulou et al. (2008) conducted a study to test whether fluctuations in colleague support as a typical job resource on a daily basis predict day-to-day levels of job performance through work engagement and self-efficacy among 44 flight attendants in a European airline company. Participants were asked to complete a general questionnaire and a diary booklet for three months and the data were analyzed by multilevel analyses. Findings indicated that work engagement partially mediated ( $z = 2.50, p < .05$ ) the relationship between self-efficacy and in-role performance and fully mediated the relationship between self-efficacy and extra-role performance ( $z = 2.24, p < .05$ ). Moreover, colleague support had an indirect impact on in-role performance through work engagement ( $z = 1.99, p < .05$ ). In their study, work engagement was measured by the UWES-9 for general engagement and UWES-12 for state engagement, while performance was characterized by in-role and extra-role performance as measured by Goodman and Svyantek's (1999) scale; both engagement and performance measures were self-ratings. Chughtai and Buckley (2009) investigated the mediating role of work engagement on the relationship between trust in the school principal (TIP) and teachers' performance. Participants, 130 school teachers from a large eastern city of Pakistan, completed questionnaires. UWES-17 was used to measure work engagement: Podsakoff and MacKenzie's (1989) scale was used to measure self-rated in-role performance, and Lee and Allen's (2002) scale was used to measure

organizational citizenship behavior (OCB). Hierarchical multiple regression was used to analyze data. Work engagement fully mediated ( $b = .34, p < .01$ ) the relationship between TIP and teachers' in-role performance and partially mediated ( $b = .29, p < .01$ ) the relationship between TIP and OCB. Since this study defined OCB as teachers' extra-role in improving performance in the school, OCB could be viewed as extra-role performance.

Only one study in this review used objective financial data to measure performance. Xanthopoulou, Bakker, Demerouti, and Schaufeli (2009) adapted financial performance using objective data and conducted a study to investigate how daily variations in job and personal resources were related to work engagement and financial (job) performance among 42 employees in Greek fast food company. Participants were asked to complete questionnaires and keep diaries for five consecutive days. Financial return data were provided by supervisors; multilevel analyses were employed to analyze the collected data. The results of the study found that day-level work engagement partially mediated the relationship between day-level coaching and daily financial performance ( $z = 2.03, p < .05$ ) and also that there was a positive lagged effect of coaching on work engagement ( $\gamma = .157$ , standard error [SE] = 0.047,  $t = 3.34, p < .001$ ), and financial returns ( $\gamma = 30.73$ ,  $SE = 9.35$ ,  $t = 3.29, p < .001$ ) on a daily basis. In their study, work engagement was characterized by vigor, dedication, and absorption and was self-assessed using the UWES-9 for general engagement and UWES-6 for state engagement, whereas performance was characterized by financial performance as the total amount of money earned within a particular shift. Although this study had less than 50 participants, it was meaningful in that it employed financial returns data (i.e., objective data) to measure performance.

Rich, Lepine, and Crawford (2010) conducted a study to examine the role of engagement in explaining relationships among organizational factors, individual characteristics, and two job performance dimensions (i.e., task performance and OCB) among 245 firefighters in the United States. Participants were asked to rate their own job engagement (i.e., work engagement) and other independent and moderating constructs (e.g., job involvement, job satisfaction, and value congruence); participants' supervisors were asked to rate participants' job performance by completing a Likert-type scale questionnaire. Data collected from both participants and their supervisors were analyzed using path analysis. The results of the study found that work engagement mediated relationships between value congruence ( $\beta = .35, p < .05$ ), perceived organizational support ( $\beta = .37, p < .05$ ), and core self-evaluations ( $\beta = .36, p < .05$ ) and two dimensions of job performance (task performance  $\beta = .25, p < .05$ ; OCB  $\beta = .27, p < .05$ ). In this study, engagement was characterized by physical, emotional, and cognitive dimensions of engagement in conjunction with Kahn's (1990) engagement approach and measured by the authors' scale, while performance was defined as task performance as measured by Williams and Anderson's (1991) scale and OCB as measured by Lee and Allen's (2002) scale. A sample item for task performance was *adequately completes assigned duties*; one for OCB was *help others who have been absent*. Engagement was assessed by participants, but performance was assessed by their supervisors.

Salanova, Lorente, Chambel, and Martínez (2011) examined the mediating role of work engagement in the relationship between transformational leadership of supervisors and self-efficacy and extra-role performance. The UWES-11 measure of work engagement was completed by 280 nurses in Portugal. A four-item scale (Morrison, 1994) was used to measure performance. A sample item was *This employee thinks about what is the best for the hospital*. SEM was used to analyze data. Work engagement fully mediated the impact of transformational leadership ( $\beta = .17, p < .01$ ) and self-efficacy ( $\beta = .39, p < .001$ ) on extra-role performance ( $\beta = .13, p < .05$ ). Leadership, self-efficacy, and engagement were self-rated. Immediate supervisors rated each participant's performance.

Leung, Wu, Chen, and Young (2011) investigated the mediating role of work engagement in the relationship between workplace ostracism and service performance in 304 supervisor-subordinate dyads working in hotels in China. UWES-9 was used to measure engagement; a seven-item scale (Liao & Chuang, 2004) was used to measure performance. A sample item was *This employee approaches customers quickly when needed*. Hierarchical linear modeling (HLM) was used to analyze data. The relationship between workplace ostracism ( $\beta = -.26, p < .01$ ) and service performance ( $\beta = .23, p < .01$ ) was mediated by work engagement. Supervisors rated their subordinate's service performance.

Karatepe (2011) examined the mediating role of work engagement in the relationship between procedural justice and job outcomes among 143 employees in Nigeria. Participants completed the UWES-9 measure of engagement; a five-item scale adapted from Babin and Boles (1998) was used to measure job performance; and a five-item scale (Bettencourt & Brown, 1997) was used to measure extra-role customer service. Hierarchical multiple regression was used to analyze data. Work engagement fully mediated the relationship between procedural justice and job performance (Sobel test  $z = 2.63, p < .01$ ) and extra-role customer service ( $z = 2.33, p < .05$ ). Job performance and extra-role customer service were rated by employees' supervisors; other measures were self-report.

In contrast to the 18 studies described previously, two other studies reported a relationship between work engagement and performance that was mediated by other factors.

Salanova, Agut, and Peiró (2005) investigated the mediating role of service climate between work engagement and organizational resources and employee performance and customer loyalty among 1,482 people in Spain: 342 employees from hotels and restaurants offered information about work engagement and organizational resources; 1,140 customers from these units provided information on employee performance and customer loyalty. Questionnaires were used to collect data, and the data were analyzed by SEM. Results of the study showed that although service climate partially played a mediating role on the relationship between work engagement ( $\beta = .61, p < .001$ ) and performance ( $\beta = .32, p < .01$ ), work engagement was not directly related to performance ( $\beta = -.12$ , nonsignificant). In other words, work engagement had an effect on performance only through the service climate. In this study, data were collected not

only from employees but also from customers. In addition, work engagement was measured by self-report using UWES-17, whereas performance was viewed as a composite of empathy and excellent job performance. Empathy was assessed using the SERVQUAL Empathy Scale (Parasuraman, Zeitham, & Berry, 1988) and excellent job performance was assessed using Service Provider's Performance Scale (Price, Arnould, & Tierney, 1995). A sample question for empathy was *employees understand specific needs of customers*; one for excellent performance was *employees do more than usual for customers*. Both measures were completed only by customers.

Karatepe and Ngeche (2012) examined the mediating role of job embeddedness in the relationship between work engagement and job outcomes including job performance among 212 hotel employees in Cameroon. Participants completed the UWES-9 measure of engagement; a five-item scale adapted from Babin and Boles (1998) was used to measure job performance; and job embeddedness was measured by a global measure of job embeddedness (Crossley, Bennett, Jex, & Burnfield, 2007). Confirmatory factor analysis and hierarchical multiple regression were used to analyze data. Findings indicated that the relationship between work engagement and job performance was partially mediated (Sobel test  $z = 2.86$ ,  $p < .01$ ) by job embeddedness. Self-report data were collected from employees at two points of time; performance ratings for employees were completed by their supervisors.

In the nine articles reviewed in this section, work engagement was found to mediate the relationship between performance and other factors (i.e., self-efficacy, coaching, values congruence, organizational support, self-esteem, trust, and transformational leadership); service climate and job embeddedness were found to mediate the relationship between work engagement and performance. UWES was consistently used to measure work engagement; all but one study used this measure. Interestingly and importantly, employee performance was self-rated in only two of nine studies. For six others, performance ratings were provided by supervisors in five studies and by customers in one. In the final study, Xanthopoulou, et al. (2009), financial performance operationalized as money earned during a particular shift was used.

## Summary and Recommendations

We begin this section with a summary of research-related issues that are organized into four categories. Following the summary, we offer recommendations based on our review of these studies.

### Summary

Important issues from the articles are summarized below. These issues include work engagement conceptualization/measurement, performance conceptualization/measurement, related factors, and industries/occupations/countries included in studies. The first is conceptualization/measurement of work engagement.

*Work engagement conceptualization/measurement.* The conceptualization of work engagement for research reported here is notable for its consistency among studies. Shuck (2011) identified four approaches used to study engagement: Need-satisfying (Kahn, 1990); burnout-antithesis (Maslach, Schaufeli, & Leiter, 2001); satisfaction-engagement (Harter, Schmidt, & Hayes, 2002); and multidimensional approach (Saks, 2006). Of the 20 studies that met the criteria for inclusion in this article, all but three used the burnout-antithesis approach as operationalized by the use of UWES. We note this not as a limitation of our study, but rather to emphasize the uniformity of engagement approach and scale. This is not surprising. Shuck (2011) and Schaufeli and Baker (2010) agree that the UWES is a widely used instrument to measure engagement. They also agree that all approaches and instruments used have their proponents and critics. We mentioned earlier in this paper the need for researchers to provide details on measures used. As research moves forward on the linkage between work engagement and performance, ways in which engagement is conceptualized and measured should be noted and considered when analyzing and comparing results.

In this research, most studies characterized work engagement as vigor, dedication, and absorption, but two studies described it as vigor and dedication (Bakker & Demerouti, 2009; Salavova et al., 2011), and three other studies used a conceptualization of engagement as a willingness to expend effort beyond what was expected (Medlin & Green, 2009), three dimensions of engagement such as physical, emotional, and cognitive engagement (Rich et al., 2010), or job and work attitudes as measured by a scale developed by the authors (Robertson et al., 2012). In addition, most studies used work engagement in general, but some studies specified work engagement as daily engagement (Bakker & Xanthopoulou, 2009; Xanthopoulou et al., 2009) or weekly engagement (Bakker & Bal, 2010) using a short-term perspective. Performance conceptualization and measurement is discussed next.

*Performance conceptualization/measurement.* Performance was mostly characterized by in-role performance including task performance and/or extra-role performance including OCB; but two studies used overall job performance ratings combined with another measure—excellent performance and accomplishment of goals (Medlin & Green, 2009) and excellent job performance and employee empathy (Salanova et al., 2005); moreover one study adapted financial performance (Xanthopoulou et al., 2009). For the actual assessment, nine of the 20 reported studies used performance data which were self-assessed by participants. Six studies used performance data supplied by participants' supervisors. For the remainder, some studies utilized performance data rated by participants' colleagues (Xanthopoulou et al., 2008), their customers (Salanova et al., 2005), participants and their supervisors (Bakker & Bal, 2010), or participants, supervisors, and coworkers (Halbesleben & Wheeler, 2008). One study used actual financial returns data to measure performance (Xanthopoulou et al., 2009). The fact that a slight majority (11 out of 20) used measures other than self-report is encouraging given Shuck's (2011) observation of the over reliance on perceived outcomes in engagement research. The following section summarizes other factors that have relevance to performance and engagement.



*Related factors.* Numerous other factors have been studied in conjunction with work engagement and performance. In nine studies reported here, work engagement was found to mediate the relationship between performance and other factors (i.e., self-efficacy, trust, coaching, value congruence, perceived organizational support, self-evaluation, transformational leadership, workplace ostracism, and procedural justice).

Xanthopoulou et al. (2008) found that work engagement partially mediated the relationship between self-efficacy and in-role performance and fully mediated the relationship between self-efficacy and extra-role performance. Chughtai and Buckley (2009) reported that work engagement fully mediated the relationship between teachers' TIP and teachers' in-role performance and partially mediated the relationship between TIP and OCB. In the only study to use financial data as a performance measure, Xanthopoulou et al. (2009) found that day-level work engagement partially mediated the relationship between day-level coaching and daily financial performance.

In a study reported by Rich et al. (2010), results indicated that work engagement mediated relationships between value congruence, perceived organizational support and core self-evaluations and two dimensions of job performance. In other studies, work engagement fully mediated the impact of transformational leadership and self-efficacy on extra-role performance (Salanova et al., 2011) and the relationship between workplace ostracism and service performance (Leung et al., 2011). In the last reported study in this section (Karatepe, 2011), work engagement fully mediated the relationship between procedural justice and job performance and extra-role customer service. In addition to the linkages reported between work engagement and performance, a factor related to burnout, workaholism, was positively and negatively related to contextual performance and innovativeness (Gorgievski et al., 2010).

What is notable is that work engagement has been found to affect such a diverse set of relationships. Two factors, service climate (Salanva et al., 2005) and job embeddedness (Karatepe & Ngeche, 2012) were found to mediate the relationship between work engagement and performance. In addition of studying a number of related factors, studies also have collected data from a variety of industries and occupational groups located in a number of countries.

*Industries/occupations/countries included in studies.* Among 20 studies, 10 of them focused on specific industries or occupations such as hotels and restaurants (Karatepe & Ngeche, 2012; Leung et al., 2011; Salanova et al., 2005; Xanthopoulou et al., 2009), flight attendants (Xanthopoulou et al., 2009), firefighters (Rich et al., 2010), teachers (Bakker & Bal, 2010; Chughtai & Buckley, 2009), nurses (Salanova et al., 2011), and research scientists (Chughtai & Buckley, 2011).

Studies were conducted in five continents excluding South America: 12 in Europe (i.e., Greece, Ireland, Italy, Netherlands, Portugal, Spain, and United Kingdom); 3 in North America (i.e., USA); 2 in Asia (i.e., China and Pakistan); 2 in Africa (i.e., Cameroon and Nigeria); and 1 in Oceania (i.e., Australia). However, more than half of them were performed in European countries; and 5 out of 12 studies were conducted in The Netherlands.



## Recommendations for Future Research

On the basis of the issues identified from the literature, we propose the following agenda for future research in terms of research design, performance orientation, and conceptual model development.

**Research design.** To enhance our understanding of the relationship between work engagement and performance, we recommend future research that employs both quantitative and qualitative research methods. This practice would add depth and detail to the findings (Swanson, Watkins, & Marsick, 1997). All studies described in this article dominantly used quantitative data, which are necessary to test relationships. Qualitative research methods are essential, however, when there is a lack of quantitative instruments or if instruments need to be adapted to a specific situation (Swanson et al., 1997). Qualitative approaches also solicit rich meanings and provide context and opportunities for expanded dialogue. When combined, qualitative and quantitative research could facilitate elaboration on the meaning of the findings (Swanson et al., 1997). For example, inclusion of a short-answer, critical incident, or interview component, along with quantitative methods, would allow researchers to explore issues in greater detail and to augment the quantitative findings. In drawing from the studies reported here, work engagement was found to mediate the relationship between teachers' trust in their principal and their in-role performance (Chughtai & Buckley, 2009). Future studies could continue to explore the quantitative nature of this relationship and also collect critical incident accounts from teachers that would provide details on how trust was established and ways in which the teacher's performance was affected. In another study (Medlin & Green, 2009), findings suggest that goal setting leads to engaged employees, engaged employees show high levels of workplace optimism, and ultimately that workplace optimism leads to high levels of individual performance in organizations. Each of these findings create questions in our minds that could be answered, at least in part, from follow-up studies that collect statistical data on these relationships and provide a mechanism by which participants could provide details on their experiences.

Furthermore, we recommend that future research be conducted in as many cultural settings as possible. An expansion of scope in terms of cultural context will help reinforce the external validity of the results (Shadish, Cook, & Campbell, 2002), enrich the inference from the research, and in turn build a stronger foundation of theory. Besides, wider administration of the measures of engagement would contribute to further enhancement of the instrument in terms of internal and construct validity. It is noteworthy, however, that the UWES instrument has been found reliable in studies conducted in a wide variety of countries. Moreover, we recommend future research that compares different types of industry, occupation, or work on the relationship between work engagement and performance. Half of studies reported here focused on specific industries (e.g., hotels and restaurants) and occupations (e.g., flight attendants, teachers, and nurses). Thus, as an extension of those studies, future research could examine effects of types of industry, occupation, or work as a mediator or a

moderator on the relationship between work engagement and performance. Given that many organizations, especially global organizations, tend to encompass various types of work, occupations, and/or industry, such research effort will provide information that will help scholars and practitioners to better understand and utilize the relationship between work engagement and performance.

In addition, concerning measures of performance, we recommend that tangible objective measures be used whenever possible. Use of tangible performance indicators will allow researchers to make more persuasive arguments on the importance of work engagement and very likely will lead to increased interest from management and perhaps more resources being devoted to factors related to work engagement. This notion is further discussed in the following research agenda of performance orientation.

*Performance orientation.* Another recommendation is that future research examine many potential dimensions for measuring performance such as team/group effectiveness, organizational financial performance, and customer satisfaction as well as individual in-role and extra-role performance. As stated earlier, performance in this literature review mainly referred to individuals' in-role and extra-role performance that was measured based on perception of participants, their supervisors, or colleagues with three exceptions—one study that used financial performance and two that used a combination of job performance ratings with another measure. That is, most of the studies placed their focus both on the individual level of performance rather than team or organizational level of performance and on perceptual responses rather than objective indicators. This difficulty in measuring performance is not confined to studies on this topic; inability to agree on or to obtain permission for use of objective measures of performance for individuals, teams, and organizations remains a concern for researchers from HRD, business, and other fields within the social sciences. On a more positive note, a slight majority of the studies reported used measures other than self-report; this is a step in the right direction. Nonetheless, given that organizations have recognized the concept and value of work engagement, HRD scholars could provide a valuable service by finding a way of presenting dynamics and influences of work engagement in conjunction with substantial performance outcomes. The ultimate interest of organizations is less in affecting factors but more in the affected factor, which is sustainable performance creation.

*Conceptual model development.* Continuing the discussion started in the performance orientation section, we recommend future research that continues to address conceptual or structural model development surrounding work engagement and performance. Our comprehensive literature review laid a cornerstone for this effort by providing and summarizing empirical evidence of direct, indirect, and mediating components that positively affect individual performance. A consideration of all components would aid in the development of a robust conceptual model that encompasses significant contributors to performance and that will be more compelling than ones based on punditry or anecdotal evidence. We previously mentioned that most studies included in this review focused primarily on individual links to performance based on subjective perceptions. The development of a

conceptual model that integrates other objective measures at different performance levels (e.g., team productivity and corporate financial performance) could make a substantial contribution to supplementing the missing piece of research in engagement and performance. Furthermore, identifying and encompassing antecedents of work engagement and mediators of the relationship between work engagement and performance would help to develop a comprehensive conceptual model. Given incremental scholarly and practical interest, the conceptual model development in itself would contribute to the field of HRD and, at the same time, lead to a virtuous cycle of subsequent empirical research because a sound conceptual model serves as a trigger for further empirical research (Hu, 2007) and vice versa.

As scholarly inquiry on work engagement continues, clarity from authors regarding research design and results will enable others to discern how extant research relates to their current work and also help us build theoretical and practical understanding of work engagement and its relationship to aspects of work performance.

## **Implications, Limitations, and Conclusions**

The final section of this article is divided into implications, limitations, and conclusions. We begin with implications.

### *Implications*

The findings of the present paper have two important implications. First, for scholars, this literature review provides an integrative summary of empirical research on the relationship between work engagement and performance and suggests a research agenda for HRD/OD scholars. In addition, the present literature review confirms that there is a discrepancy between academic research and organizations' needs suggesting a demand for more studies to vigorously test the relationship between them. Therefore, the desired contribution of this literature review is to stimulate an academic interest in conducting empirical studies regarding the topic in conjunction with the suggested research agenda and thus to build a body of literature that will help close the discrepancy.

The second implication is for practice. The studies showed that work engagement has direct and/or indirect positive effects on employees' performance within organizations and plays a mediating role in the relationship between antecedents (e.g., self-efficacy, coaching, and colleague support) and performance. In addition, work engagement has a positive impact on performance mediated by other factors (i.e., service climate and job embeddedness). It implies not only that work engagement is a relevant factor for employees' performance enhancement, but also that individual work engagement can be managed and developed by antecedents that HRD practitioners in organizations could provide and enhance. Wollard and Shuck (2011) identified 42 antecedents through a structured literature review: 21 individual antecedents (e.g., optimism and self-esteem) and 21 organizational antecedents (e.g., feedback

and supportive organizational culture). Earlier work by Bakker and Demerouti (2008) proposed the job demands-resources (JD-R) model of work engagement; this model includes job resources (e.g., autonomy, performance feedback, social support, and supervisory coaching) and personal resources (e.g., self-efficacy, optimism, resilience, and self-esteem) as antecedents of work engagement, which leads to performance improvement. A number of factors influencing work engagement were reported in this current study. These include self-efficacy, trust, coaching, value congruence, perceived organizational support, self-evaluation, transformational leadership, self-efficacy, workplace ostracism, and procedural justice as well as service climate and job embeddedness. Hence, as HRD and OD professionals working in organizations become aware of factors that influence the relationship between work engagement and performance, they should be able to help and facilitate employees in becoming engaged and in maintaining the engaged status. Future research that examines the specific ways in which these factors are related will provide information that can help practitioners provide resources and build support frameworks that make a real difference in employees' work lives.

These factors have ramifications for both organizational culture and leadership and also for job ownership and employee motivation to engage in jobs. Workaholism, a condition that is considered closely related to burnout, was found to be positively and negatively related to contextual performance and innovativeness (Gorgievski et al., 2010). Burnout is the antithesis of engagement according to Maslach et al (2001), the conceptualization used by the majority of studies reported in this review. By capturing positive aspects of these factors and avoiding negative aspects of burnout, organizations can help employees understand the importance of personal resources and how to utilize those resources to maintain both physical and mental health without burnout so that employees can achieve balance between work and personal life in a way that suits each individual.

Support of individual and team performance ultimately should lead to organizational performance improvement. Furthermore, organizations can design and develop learning programs or workshops that would strengthen vigor, dedication, and absorption at the individual level so as to help employees have high levels of work engagement for higher performance. The findings on in-role and extra-role performance deserve special attention in recent organizational situations in which employees are asked to participate in additional activities such as voluntary community services or organizational events and/or to take on additional workloads when positions of departed colleagues remain unfilled. In today's economy, organizations may find that fear of losing one's job or a concern about making a department look good provides sufficient motivation to encourage performance. Economic conditions change, however, and in any event fear is not the best motivator over time and can lead to burnout. The levels of engagement that can be expected of employees when many are already performing expanded work duties also raises questions about work-life balance, another emerging topic of interest in our field. As scholar-practitioners, we need to counter the sometimes inflated claims in practitioner literature on what engagement

can do and, instead, encourage thoughtful application of research findings to improve the functioning of individuals, groups, and organizations.

### *Limitations*

As with all studies, this study had certain limitations related to choices made about approach and methods. Since the stated purpose of this study was to focus on empirical literature linking working engagement and performance, it precluded inclusion of conceptual pieces that might have enhanced the study. In addition, the procedure we used to select articles was based in large part on decisions made about terms and details that needed to be included in abstracts. Although we took steps to examine additional articles that might be appropriate, our procedure may have led to omission of some relevant articles.

### **Conclusions**

In this literature review, the holistic perspective of empirical studies on the relationship between work engagement and performance was used to analyze studies, identify important issues, and synthesize them into new ideas that influence a research agenda for future research. Throughout the process, this article identified what we know and what we still need to know on the topic. We found studies that suggest that work engagement has a positive relationship with performance in organizations and that work engagement also plays a mediating role in the relationship between antecedents (e.g., job and/or personal resources) and an outcome (i.e., performance). Thus, organizations should pay attention to and benefit from these findings since engaged employees will become fundamental and core assets to enhance organizational effectiveness over the long term.

The number of articles reviewed here is relatively small. Even allowing for extant research that did not fall within the parameters of our study, a gap remains between organizations' attention and the academic literature on the topic. That is, in-depth empirical studies are required to analyze aspects of engagement and performance. Especially, more studies should be conducted to investigate whether levels of work engagement (i.e., daily, weekly, and general work engagement) have direct, indirect, or any other effects on levels of performance (i.e., individual, team/group, and organizational performance). Moreover, we need to explore ways in which performance can be measured not only by subjective perceptions but also by objective indicators such as sales increase or productivity improvement. If HRD/OD scholars use a comprehensive approach to conduct diverse studies that investigate the topic, and organizations utilize engagement to establish mid-term and long-term strategies to achieve high levels of performance in the workplace, organizations could have a sustainable and fundamental power as a competitive advantage through their engaged workforce.

# Appendix

## Summary of Studies Examining the Relationship Between Work Engagement and Performance

Authors	Purpose	Sample (N)	Method/analysis	Measures of engagement	Key findings
Salanova, Agut, & Peiro (2005)	To investigate a mediating role of service climate between work engagement and resources and employee performance and customer loyalty.	N = 1,482 (342 employees from 114 service units and 1,140 customers from the units in Spain)	Quantitative: questionnaires; structural equation modeling (SEM)	UWES-17 (vigor [6], dedication [5], and absorption [6])	Service climate partially mediated the relationship between work engagement and performance. There was no statistically significant relationship between work engagement and performance.
Halbesleben & Wheeler (2008)	To investigate roles of embeddedness and engagement in predicting job performance and turnover intention	N = 587 (employees in the United States of America)	Quantitative: questionnaire; confirmatory factor analysis (CFA) and usefulness analysis	UWES-17 (vigor [6], dedication [5], and absorption [6])	Work engagement and embeddedness each shared unique variance with (in-role) performance.
Xanthopoulou, Bakker, Heuven, Demerouti, & Schaufeli (2008)	To investigate whether daily fluctuations in colleague support can predict job performance through self-efficacy and work engagement	N = 44 (flight attendants in a European airline company)	Quantitative: questionnaire and diary survey; multi-level analyses	UWES-9 (general engagement; vigor [3], dedication [3], and absorption [3]) and UWES-12 (state engagement; vigor [4], dedication [5], and absorption [3])	Work engagement mediated the relationship between self-efficacy and (in-role and ext-role) performance. Through work engagement, colleague support was indirectly related to (in-role) performance.
Bakker & Demerouti (2009)	To investigate the role of empathy in the crossover process and the relationship between men's engagement and job performance	N = 525 (175 women, 175 their partners, and 175 colleagues of men in Netherlands)	Quantitative: questionnaires; SEM	UWES-11 (vigor [6] and dedication [5])	Men's work engagement is positively related to both (in-role and ext-role) performance and mediated the indirect effect of women's engagement on men's performance.
Bakker & Xanthopoulou (2009)	To investigate the positive crossover of daily work engagement and whether the crossover of work engagement determines employees' performance.	N = 124 (62 employees [actors] and 62 of their colleagues [partners] in Netherlands)	Quantitative: questionnaire and diary survey; multi-level analyses	UWES-6 (vigor [2], dedication [2], and absorption [2])	Actor's work engagement (vigor) had a positive indirect effect on partner's task performance through partner's work engagement when frequently communicated.

(continued)

## Appendix (continued)

Authors	Purpose	Sample (N)	Method/analysis	Measures of engagement	Key findings
Chughtai & Buckley (2009)	To investigate a mediating role of work engagement on the relationship between trust in principal and performance	N = 130 (school teachers in Pakistan)	Quantitative: questionnaire; Hierarchical multiple regression	UWES-17 (vigor [6], dedication [5], and absorption [6])	Work engagement mediated the relationship the effects of trust in principal of in-role job performance (fully) and organizational citizenship behavior (partially). Work engagement had a positive impact on workplace optimism, and ultimately on individual performance.
Medlin & Green (2009)	To examine the relationships among goal setting, work engagement, workplace optimism, and individual performance	N = 426 (full- and part-time employees in the southern United States of America)	Quantitative: questionnaire; SEM	4 items by Buckingham & Coffman (1999)	
Xanthopoulou, Bakker, Demerouti, & Schaufeli (2009)	To investigate how daily variations in job and personal resources are related to work engagement and financial performance	N = 42 (employees in a fast food company in Greece)	Quantitative: questionnaire and diary booklet; multilevel analyses	UWES-6 (vigor [2], dedication [2], and absorption [2])	Work engagement mediated the relationship between coaching and financial performance on a daily basis; there was lagged affect on engagement and financial returns.
Bakker & Bal (2010)	To investigate the intra-individual relationship between work engagement, job resources and performance on a weekly basis	N = 54 (teachers in Netherlands)	Quantitative: weekly questionnaire; multilevel analyses	UWES-9 (general engagement; vigor [3], dedication [3], and absorption [3])	Work engagement was positively related to job performance and a mediator of the relationship between job resources (autonomy and opportunities for development) and (in-role and extra-role) performance.
Balducci, Fraccaroli, & Schaufeli (2010)	To examine the relationship between work engagement (Italian version) and work performance	N = 668 (employees in Italy)	Quantitative: questionnaire; CFA	UWES-9 (general engagement; vigor [3], dedication [3], and absorption [3])	Work engagement had a positive relationship with work performance.
Gorjievski, Bakker, & Schaufeli (2010)	To investigate the relationship between work engagement and job performance (contextual and task performance and innovativeness)	N = 2,164 (1,900 employees and 262 self-employed in Netherlands)	Quantitative: questionnaire; SEM	UWES-9 (general engagement; vigor [3], dedication [3], and absorption [3])	Work engagement was positively related to task performance and innovativeness for both groups, but positively related to contextual performance only for employees.

(continued)



## Appendix (continued)

Authors	Purpose	Sample (N)	Method/analysis	Measures of engagement	Key findings
Rich, Lepine, & Crawford (2010)	To examine a role of engagement explaining relationships among individual characteristics and organizational factors and job performance	N = 245 (full-time firefighters and their supervisors by four municipal cities in United States of America)	Quantitative: questionnaire; Path analysis	18 items (physical [6], emotional [6], and cognitive [6] engagement) by Rich et al. (2010)	Job(work) engagement mediated relationships between value congruence, perceived organizational support, and core self-evaluations, and job performance (task performance and organizational citizenship behavior)
Chughtai & Buckley (2011)	To investigate effects of state and trait trust on work engagement and the mediating role of learning goal orientation between work engagement and performance	N = 168 (research scientists from 6 Irish research centers)	Quantitative: questionnaire; SEM	UWES-9 (general engagement; vigor [3], dedication [3], and absorption [3])	Work engagement was directly related to performance (in-role performance and innovative work behavior); its relationship was mediated by learning goal orientation.
Karatepe (2011)	To examine a mediating role of work engagement in the relationship between procedural justice and job outcomes	N = 143 (employees in Nigeria)	Quantitative: questionnaire; CFA & Hierarchical multiple regression	UWES-9 (general engagement; vigor [3], dedication [3], and absorption [3])	Work engagement fully mediated the relationship between procedural justice and job performance and extra-role customer service
Kirk-Brown & Dijk (2011)	To investigate a mediating role of psychological safety in the relationship between work engagement and performance for employees with chronic illness	N = 604 (512 general employees and 92 with chronic illness in Australia)	Quantitative: questionnaire; Hierarchical regression	UWES-17 (vigor [6], dedication [5], and absorption [6])	Work engagement had a positive relationship with performance (OCBs) for both groups, but the relationship was partially mediated by psychological safety only for employees with chronic illness.
Leung, Wu, Chen, & Young (2011)	To investigate a mediating role of work engagement in the relationship between workplace ostracism and service performance	N = 304 (supervisor-subordinate dyads in China hotels)	Quantitative: questionnaire; Hierarchical linear modeling (HLM)	UWES-9 (general engagement; vigor [3], dedication [3], and absorption [3])	The relationship between workplace ostracism and service performance was mediated by work engagement

(continued)

## Appendix (continued)

Authors	Purpose	Sample (N)	Method/analysis	Measures of engagement	Key findings
Salanova, Lorente, Chambel, & Martinez (2011)	To examine a mediating role of work engagement in the relationship between supervisors' transformational leadership and extra-role performance	N = 280 (nurses in Portugal)	Quantitative: questionnaire; SEM	UWES-11 (vigor [6] and dedication [5])	Work engagement fully mediated the relationship between transformational leadership and extra-role performance.
Bakker, Demerouti, & Brummelhuis (2012)	To examine a moderating role of conscientiousness in the relationship between work engagement and job performance	N = 144 (employees in Netherlands)	Quantitative: questionnaire; SEM	UWES-9 (general engagement; vigor [3], dedication [3], and absorption [3])	Work engagement was positively related to contextual performance and task performance, especially for employee high in conscientiousness
Karatepe & Ngeche (2012)	To examine a mediating role of job embeddedness in the relationship between work engagement and job outcomes	N = 212 (hotel employees in Cameroon)	Quantitative: questionnaire; CFA & Hierarchical multiple regression	UWES-9 (general engagement; vigor [3], dedication [3], and absorption [3])	The relationship between work engagement and job performance was partially mediated by job embeddedness.
Robertson, Birch, & Cooper (2012)	To examine relationships among employee engagement, psychological well-being, and performance	N = 9,930 (employees in United Kingdom)	Quantitative: questionnaire; Multiple regression	5 items of job and work attitudes by Robertson et al. (2012)	Employee performance was better predicted by a combination of psychological well-being and employee engagement

Note: UWES = Utrecht Work Engagement Scale; OCB = organizational citizenship behavior.

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