A Theoretical Model of the Antecedents and Outcomes of Employee Engagement:

Dubin’s Method

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Full Paper Submission

Stream: Employee Engagement and HRD

Submitted to the UFHRD Conference 2013, Brighton, UK
Abstract

This paper builds on existing theoretical and empirical research on employee engagement and proposes a theoretical model of the antecedents and outcomes of the construct. Using Dubin’s (1978) theory-building methodology, it identifies job design and characteristics, supervisor and co-worker relationships, workplace environment, and individual characteristics as the major antecedents to employee engagement. The paper also proposes that job demands and employee perceptions of HRD practices serve as important moderators to the relationships between job design and characteristics, supervisor and co-worker relationships, workplace environment, and employee engagement. Employee engagement, in return, plays a salient role in enhancing employees’ job performance and organizational citizenship behaviors as well as in reducing turnover intention. A theoretical model, laws of interaction, research propositions, and implications for research and practice are discussed.

Keywords: employee engagement, Dubin’s method, work engagement, theoretical model, human resource development
A Theoretical Model of the Antecedents and Outcomes of Employee Engagement: Dubin’s Method

Employee engagement is a relatively new but extremely popular concept in the field of Human Resource Development. Such strong interest is driven by claims that organizations looking to leverage employee engagement could ultimately observe significant bottom-line results (Macey & Schneider, 2008). For instance, the notion of engagement has been claimed to predict both individual employee outcomes and organizational level success and financial performance (Harter, Schmidt, & Hayes, 2002; Macey & Schneider, 2008; Saks, 2006; Shuck & Reio, 2011).

Despite heightened interest in the topic, there is a paucity of studies and well-developed theories that link the antecedents, moderators, and outcomes of engagement. Using the first part of Robert Dubin’s (1978) two-part, eight-step theory-building methodology, this paper builds on existing research and empirical studies on the topic and proposes a theoretical model that includes the major antecedents, moderators, and outcomes of employee engagement.

Dubin’s methodology was chosen because it is widely regarded as one of the most comprehensive theory-building methods available. It requires the researcher to construct a theoretical model that is informed by conceptual and logically connected ideas, and it involves transforming such a model into testable hypotheses (Chermack, 2004). This eight-step theory-building method can be divided into two parts. Part one includes the development of the following elements of the theory: (1) units (or concepts) of the theory, (2) laws of interaction among the units, (3) boundaries of the theory, (4) system states of the theory, (5) propositions of the theory. Part two includes the development of (6) empirical indicators and (7) hypotheses, and (8) testing (Lynham, 2002).
Using the first five phases of Dubin’s method, this paper identifies (1) job design and characteristics, (2) supervisor and co-worker relationships, (3) workplace environment, and (4) individual characteristics as the major antecedents to employee engagement. We also propose that (5) job demands and (6) employee perceptions of HRD practices serve as important moderators to the relationships between job design and characteristics, supervisor and co-worker relationships, workplace environment, and employee engagement. Employee engagement, in return, plays a salient role in enhancing employees’ (7) job performance and (8) organizational citizenship behaviors as well as in reducing (9) turnover intention. Taking into account these organizational factors, we have derived a number of propositions for further empirical testing on the topic.

We believe that this paper can make a contribution to the literature on engagement and that its findings will offer important implications for both HRD researchers and practitioners. It provides a comprehensive, logically-derived theoretical framework of the antecedents and outcomes of engagement that can be used in empirical studies on the topic. This paper will start by providing a brief overview of employee engagement, its emergence in the organizational literature, and some of its most common definitions. It will then address the first five steps of the Dubin’s theory-building methodology in attempting to formulate a comprehensive theoretical model of engagement. It is important to note that we are not seeking to provide a structured literature review on the topic; instead, our literature review is embedded in the discussions of the history and overview of engagement and is employed throughout the process of developing the theory itself. To wit, each of the five phases of the theory building process will entail identifying and examining existing relevant research that undergirds our claims and provides basis for our
framework. This paper will conclude with recommendations for future research and empirical testing of this theoretical model as well as suggestions for managers and HRD practitioners.

**Background and Definitions: Employee Engagement**

Employee engagement has become a topic of immense interest in the organizational literature in recent years. It is claimed that engagement can predict employee outcomes, success, and financial performance of organizations (Saks, 2006). However, it has been reported that the engagement level of employees is decreasing and that disengagement is on the rise in the U.S. (Saks, 2006). For instance, approximately half of all employees in the U.S. are reportedly “disengaged” or “not fully engaged”, which has resulted in annual productivity losses of close to $300 billion (Saks, 2006, p. 600).

The concept of engagement began to surface in the organizational and business literature around two decades ago (Simpson, 2008). Engagement has been mainly discussed in the context of four categories, namely personal engagement, burnout/engagement, work engagement, and employee engagement (Simpson, 2008). Shaufeli, Taris, and Rhenen (2008) posited that work engagement emerged from burnout research as an attempt to examine not only employee “unwell-being” but also “well-being” (p. 176). Unlike those who experience burnout, engaged employees are energetic and connected with their work activities and feel they are capable of accomplishing those tasks (Shaufeli et al., 2008). Kahn (1990), one of the first scholars to study engagement, defined what he termed personal engagement as the “harnessing of organization members’ selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performance” (p. 694). In contrast, personal disengagement refers to the “uncoupling of selves from work roles”, during which process people “withdraw and defend themselves physically, cognitively, or emotionally” while
performing those tasks (Kahn, 1990, p. 694). Finally, Shuck and Wollard (2010) defined engagement as “an individual employee’s cognitive, emotional, and behavioral state directed toward desired organizational outcomes” (p. 103).

Perhaps the most widely cited definition of engagement (Albrecht, 2010) is that provided by Shaufeli, Salanova, Gonzalez-Roma, and Bakker (2002), who defined engagement as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption” (p. 74; emphasis added). Vigor refers to high levels of energy and psychological resilience while working, willingness to invest effort in a task, and persistence in difficult times. Dedication is described as having a sense of significance, enthusiasm, inspiration, pride, and challenge, whereas absorption can be considered as “flow” – a state of optimal experience – which is long-term and is characterized by a “pervasive and persistent state of mind” (Shaufeli et al., 2002).

Although empirical studies and conceptual works on engagement have surfaced in the literature over the past two decades and contributed to much of our understanding of the construct (Kahn, 1990; May et al. 2004; Macey & Schneider, 2008; Saks, 2006; Shaufeli et al., 2002), engagement has gained attention of HRD scholars only in recent years (Kim, Kolb, & Kim, 2012; Rurkkhum & Bartlett, 2012; Shuck & Wollard, 2010; Soane, Truss, Alfes, Shantz, Rees, & Gatenby, 2012; Wollard & Shuck, 2011). For instance, Shuck and Wollard (2010) conducted an integrated literature review to define and situate the concept within the field of HRD. The authors reviewed literature across various disciplines and fields of study and proposed a working definition of employee engagement. Shuck, Rocco, and Albornoz (2010) explored the engagement construct from the employee’s perspective and found that relationship development in the workplace, an employee’s direct manager, and learning play a critical role in an engaged
employee’s interpretation of their work. Soane et al. (2012) built on Kahn’s (1990) study of the psychological conditions of engagement and developed the Intellectual, Social, Affective Engagement Scale (ISA Engagement Scale). Finally, Rurkkhum and Bartlett (2012) explored the relationship between employee engagement and organizational citizenship behavior (OCB) in Thailand and found support for positive relationships between every component of OCB and engagement.

An Overview of Dubin’s Method

Dubin’s (1978) theory-building method is widely recognized as one of the most comprehensive theory-building methods in applied fields such as management, marketing, and human resource development (Ardichvili, Cardozo, & Ray, 2003; Chermack, 2004; Lynham, 2002). The method requires that the researcher construct a model based on logically connected ideas. It requires the transformation of this model into testable hypotheses, assumes that the model be tested, and finally, it calls for continuous empirical validation of the model (Chermack, 2004).

Dubin’s (1978) method can be divided into two parts: the theoretical part and the research operation part (Lynham, 2002). Successful completion of the first part results in a conceptual framework of the theory whereas the second part results in an “empirically verified and trustworthy theory” (p. 244). The eight phases of this theory-building method are: (1) identifying the units (or concepts) of the theory, (2) establishing the laws of interactions among the units, (3) identifying the boundaries of the theory, (4) identifying the system states of the theory, (5) deriving propositions of the theory, (6) offering empirical indicators or measures of the key terms, (7) establishing testable hypotheses, and finally, (8) conducting an empirical test of the hypotheses (Dubin, 1978).
What will follow is a step-by-step discussion of the first part - the theoretical part - of the theory-building method, in which we will address the first five phases mentioned above. We will delineate, analyze, and discuss the key constituents of each of those five steps, after which we will derive a theoretical model of the antecedents and outcomes of engagement.

**Step 1: Units of a Theoretical Model of Employee Engagement**

The units of a theory refer to the concepts, basic ideas, or building blocks that make up the theory (Dubin, 1978). The units are the “things out of which the theory is built” (Dubin, 1976, p. 26) or the raw conceptual framework upon which the theory is based (Lynham, 2002). According to Dubin (1978), in principle, there are no restrictions on the selection of the units that make up a theory. Such flexibility in determining these units enables the researcher-theorist to have complete control of this stage of the theory-building process (Chermack, 2004).

In determining the units to be included in the model, we conducted an extensive literature review on the topic. Given the widely-recognized positive relationships between engagement and other organizational variables, it is not surprising that we were able to uncover a number of articles that explored the concept of engagement and its constituent elements. However, there does not seem to be a consensus among scholars as to what specific factors pave the way for developing highly engaged employees. For instance, World and Shuck (2011) conducted a structured review of the engagement literature (265 articles in HRD- and management studies-related journals) and delineated a staggering 42 engagement antecedents either evidenced by empirical research or proposed by scholars. The antecedents that have been identified “are scattered throughout a large literature base” (p. 431) and it would be practically impossible for us to discuss each one in-depth.
After examining the most often discussed antecedents and outcomes in the literature on engagement, we have selected the following as the units of our model: (1) job design and characteristics, (2) supervisor and co-worker relationships, (3) workplace environment, and (4) individual characteristics. We also propose that (5) job demands and (6) employee perceptions of HRD practices act as moderators between job design and characteristics and engagement as well as between supervisor and co-worker relationships and engagement. Finally, we propose that employee engagement is related to three major organizational outcomes: (7) job performance, (8) turnover intentions (inverse relationship), and (9) organizational citizenship behaviors. The following section discusses each of the units in greater depth.

**Job Design and Job Characteristics**

Kahn’s (1990) qualitative study on engagement and disengagement is one of the most cited works in the current literature. In his analysis, Kahn (1990) proposed three main psychological conditions that influenced people’s engagement and disengagement at work: (1) psychological meaningfulness, (2) psychological safety, and (3) psychological availability. The dimension of *psychological meaningfulness* can be understood as one’s feeling of being “worthwhile, useful, and valuable” (p. 704) - that their work is not taken for granted. According to Kahn (1990), this meaningfulness psychological condition is highly influenced by the task characteristics of a person’s work, which include challenging work and clearly identified, creative, and autonomous role. Meaningfulness is also shaped by the formal positions that a person holds - positions that offer “attractive identities”, self-image, status, and reputation (p. 705).

Building on Kahn’s (1990) ethnographic study, May et al. (2004) conducted a study in a large U.S. Midwestern insurance company that examined the determinants of the three
psychological conditions described above. Findings suggested that all three conditions were positively related to engagement with meaningfulness displaying the strongest positive relation. The authors also found that job enrichment and work-role fit were positively related to psychological meaningfulness. Because meaningfulness has been shown to relate to many significant attitudinal outcomes (e.g. job satisfaction and international motivation) and behavioral outcomes (e.g. performance and absenteeism), May et al. (2004) suggested that meaningfulness plays an important role in engaging workers and that managers should seek to enhance meaningfulness through effective job design.

Fairlie’s (2011) study compared a number of meaningful work characteristics to other work characteristics as correlates and predictors of employee engagement. Results suggested that these meaningful characteristics had the strongest correlations with multiple employee outcomes and that they accounted for a substantive amount of variation in employee engagement. Work characteristics that were categorized as meaningful included: self-actualizing work (referring to a job that enables the individual to fulfill their potential and become a “fully function” person), work that is perceived to have a strong social impact (the extent to which one’s job matters in the society; legacy), a job that allows one to fulfill their life goals and values, a job that offers a sense of accomplishment, and work that instigates one’s belief in achieving their highest career goals within their organization (Fairlie, 2011).

A person’s job also needs to be designed in such a way that provides adequate compensation, rewards, and recognition to the individual (Fairlie, 2011; Saks, 2006). Employees need to have a sense of return on their investment before they are willing to engage in their work (Saks, 2006). In testing a model of engagement through surveying 102 employees in a variety of jobs and organizations, Saks (2006) found that job characteristics, such as rewards and
recognitions, were predictive of engagement, further illustrating the significance of job design on one’s engagement level. In addition, Fleck and Inceoglu (2010) proposed a model of engagement in which the two key drivers of engagement - person-job and person-organization fit - are highly influenced by job characteristics such as challenging duties and responsibilities, competition, career ambition, and support. Job autonomy, a key facet of job design and characteristics, is also a critical element of employee engagement (Gagné & Bhave, 2011; Albrecht, 2010). Finally, when employees are encouraged to participate in decision-making, they tend to be more engaged, invest more effort in their work, and feel less strain (Gagné & Bhave, 2011).

Supervisor and Co-Worker Relationships

Kahn (1990) argued that one’s psychological safety - referring to their sense of being able to show and do things without fear of losing reputation, status, or career - is vastly influenced by their interpersonal relationships, group and intergroup dynamics, as well as management style and process. This psychological condition of safety, in return, enhances the employee’s engagement level. May et al. (2004) also found that supportive co-worker and supervisor relations were positively linked to psychological safety and engagement. According to Kahn (1990), psychological safety can be enhanced when an employee’s interpersonal relationships are supportive and trustworthy. There should be an environment of flexibility, in which employees are encouraged to “try and perhaps to fail without fearing the consequences” (p. 708). Employees should be allowed to voice their ideas and encouraged to feel that the criticisms that they may face are “constructive rather than destructive” (p. 708).

In a similar vein, studies by Shaufeli and Bakker (2004) as well as Shaufeli, Bakker, and van Rhenen (2009) provided empirical support for the relationships between engagement and social support from co-workers and supervisors. Co-worker social support is also a significant
component of Bakker, van Emmerik & Euwema’s (2006) dedication-vigor-absorption model of work engagement. The authors argued that team members’ interactions “facilitated feelings of energy and enthusiasm in individual members, independent of the demands and resources” they were able to obtain (p. 482-483).

Finally, Shuck, Rocco, and Albornoz (2010) conducted a study that explored employee engagement from the perspectives of employees, which would prove to be one of very few studies to utilize qualitative, semi-structured interviews and observations. Findings from their case study bolster the existing research that places importance and emphasis on relationship development.

**Workplace Environment**

Consisting of colleagues and supervisors, organizational policies and procedures, physical resources, and other intangible elements such as supportive work climate and perceived levels of safety, the workplace environment is integral to having engaged employees (Shuck, Rocco, & Albornoz, 2010). Employees need to be provided with adequate physical, psychological, social, and organizational resources that enable them to reduce their job demands, to function effectively in their work role, and to stimulate their own personal development (Shaufeli & Bakker, 2004). In addition, findings from a study by Shuck, Rocco, and Albornoz (2010) offer support for the importance of positive workplace climate. They recommended that managers create a workplace climate that is positive, empowering, safe, and meaningful for employees. Finally, Saks’ (2005) study indicated that perceived organizational support predicts both job and organization engagement. One reason that might explain this positive relationship is the norm of reciprocity, which refers to the extent to which employees are likely to respond to
the support and care from the organization through trying to perform well on their duties and responsibilities at work.

While we would be the first to acknowledge that various overlapping elements are apparent between this workplace environment category and supervisor and co-worker relationships as discussed above -- and it would be naïve to argue otherwise -- we would like to emphasize the interaction that takes place between the individuals and the environment, which is composed of elements other than mere human relationships. To that end, Shaufeli and Salanova’s (2011) notion of the “contagious” nature of engagement presents a fitting rationale (p. 394). Organizational and team members, they argued, may also feel engaged as “they converge emotionally with the engagement” of their peers (p. 394). Engagement could be considered a “collective phenomenon”, which tends to spread from individual to another (p. 394).

**Individual Characteristics**

Our literature review also suggested individual characteristics could be antecedents to employee engagement. Kahn (1990) maintained that individual differences can shape people’s dispositions in terms of personally engaging or disengaging in all or some of their task performances. There is little doubt that individuals hold certain assumptions about their work and have different personal characteristics that result in different behavioral outcomes (Reeve, 2001, as cited in Shuck, Rocco, & Albornoz, 2010). Therefore, these characteristics could be “very powerful” in impacting their level of engagement at work (Shuck et al., 2010, p. 318).

Macey and Schneider (2008) proposed that employees’ proactive personality, conscientiousness, autotelic personality, and trait positive affect could lead to the development of higher levels of engagement. Shuck et al. (2011) argued that the drive for self-actualization
(Maslow’s highest hierarchical need) also parallels the concept of employee engagement. More specifically, when there exists a drive for self-fulfillment -- “a deep need for internal, emotional satisfaction that all human beings long for” (p. 303) -- employees strive to reach their full potential by being engaged. In a similar vein, Fleck and Inceoglu (2010) maintained that personal dispositions, such as self-efficacy, high achievement orientation, and proactivity, could also have an influence on how people approach their job as well as how likely they are to engage or disengage in their task performances. Xanthopoulou, Bakker, Demerouti, and Shaufeli (2007) examined the relationships between individual self-efficacy, organizational-based self-esteem, and optimism and found that engaged employees tend to have a higher level of self-efficacy. Results from their study also suggested that engaged workers are likely to be more optimistic and believe they can satisfy their needs by performing well in their roles. Additionally, Bakker and Demerouti (2008) proposed that engaged workers possess personal resources, such as optimism, self-efficacy, self-esteem, and resilience, that enable them to positively “impact upon their environment” and become successful in their careers (p. 214). Finally, according to Wollard and Shuck (2011), other scholars have identified other variables such as curiosity, optimism, and readiness to direct personal energies, as antecedents to engagement, although empirical evidence that specifically addresses the relationships between these individual factors and engagement is still lacking.

Based on these points, we proposed that individual characteristics, mainly proactivity, optimism, high-achievement orientation, conscientiousness, and self-efficacy, are salient antecedents of employee engagement.

Employee Engagement
Our theoretical model centers around the antecedents and consequences of employee engagement; needless to say, engagement itself is a critical unit of analysis of the model. Whereas the diverse literature on engagement discusses the topic in terms of traits, state, and behavior, further adding to the ambiguity of the construct (Macey & Schneider, 2008), we use the term employee engagement to refer to employees’ cognitive, emotional, and psychological state that is influenced by certain antecedents (as discussed throughout the paper). Kahn (1990) proposed that three main psychological conditions affect engagement. Similarly, Shaufeli et al. (2002) identified engagement as a “positive, fulfilling, work-related state of mind” characterized by vigor, dedication, and absorption (p. 74). We believe that this psychological, cognitive, and emotional state of engagement translates into favorable outcomes such that when engaged, employees express themselves cognitively, emotionally, and behaviorally (Fleck & Inceoglu, 2010; Kahn, 1990; Shaufeli et al., 2002; Wollard & Shuck, 2011).

**Performance**

In the context of this study, we use Swanson’s (2009) definition of performance. According to Swanson (2009), performance is “the valued productive output of a system in the form of goods or services” (p. 98). A significant amount of research has indicated that engaged employees tend to outperform their disengaged counterparts (Fleck & Inceoglu, 2010; May et al., 2004; Saks, 2006; Shuck & Reio, 2011). For instance, Saks (2006) suggested that engaged employees are more committed, satisfied, and productive. Similarly, in attempting to understand the business-unit-level relationship between employee engagement and business outcomes, Harter, Schmidt, and Hayes (2002) conducted a meta-analysis and concluded that engagement is related to “meaningful business outcomes” (p. 276) and that these relationships generalize across companies.
Kim, Kolb, and Kim (2012) reviewed empirical studies on work engagement and performance and found that existing research confirms direct and/or indirect positive effects of work engagement on employee performance within the organization. May et al. (2004) argued the condition of psychological meaningfulness (Kahn, 1990), a key antecedent to employee engagement, has been linked to not only attitudinal outcomes (such as satisfaction, motivation, and turnover cognitions) but also to many behavioral outcomes such as performance and absenteeism (May, 2003, as cited in May et al., 2004). The opposite construct of engagement (i.e., disengagement), they stated further, is central to employees’ lack of commitment and motivation, and that meaningless work is related to apathy and detachment of one’s work. Fleck and Inceoglu (2010) posited that engaged people are more attached to their work roles and are “absorbed by enacting it” (p. 35). When engaged, people invest a lot of their energy into performing these roles (Fleck & Inceoglu, 2010).

Turnover Intention

Turnover intention refers to an individual’s subjective consideration of the probability that they will quit their organization in the near future (Carmeli & Weisberg, 2007). An employee’s turnover intention can be a powerful predictor of their future behavior (Carmeli & Weisberg, 2007). Results from Shuck et al.’s (2011) correlational study revealed that employees who reported higher levels of engagement were more likely to report lower levels of intention to turnover. Similarly, Soane, Truss, Alfes, Shantz, Rees, and Gatenby (2012) found that employee engagement explained a relatively moderate amount of variance ($R^2 = 24\%$) in employee turnover intentions. Turnover intention is of great relevance to HRD practitioners and is a common outcome measure (Soane et al., 2012; Shuck et al., 2011), and as such, we also incorporated it in our engagement model.
Organizational Citizenship Behavior

Organizational Citizenship Behavior (OCB) is defined as individual discretionary behavior that is not “directly or explicitly recognized” by the organization’s reward system but overall, contributes to the effective functioning of that organization (Organ, 1988, p. 4). This “good soldier syndrome” (Organ, 1997, p. 87) ranges from offering help to a co-worker with their tasks to exhibiting extra-role behaviors, all of which, in aggregate, promote organizational effective functioning. In their study of a sample of non-managerial employees, Rurkkhum and Bartlett (2012) found support for positive relationships between engagement and “every component” of OCB, making reference to altruism, conscientiousness, sportsmanship, courtesy, and civic virtue (p. 164). In addition, Soane et al. (2012) proposed that OCBs are a potential outcome of engagement because engaged employees tend to have a positive affect and are motivated to exhibit “beneficial” behaviors (p. 536). Their study, along with that of Rich, LePine, and Crawford (2010), provide empirical evidence that suggests that there is a positive relationship between engagement and OCB. Because OCB is an important organizational construct and its positive relationship with employee engagement has been empirically validated, we have also included this outcome as a unit of analysis of our model.

Job Demands

Job demands refer to the physical, psychological, social, or organizational factors that require “sustained physical and/or psychological” effort on the employees’ part and therefore are thought to be associated with certain physiological or psychological costs (Schaufeli & Bakker, 2004, p. 296). Nahrgang, Morgeson, and Hofmann (2011) did a meta-analytic test and found that job demands hindered an “employee’s progress towards engagement” (p. 85). Also, Bakker, van
Emmerik and Euwema (2006) contended that job demands, such as emotional overload and high expectations, may be powerful predictors of burnout.

Schaufeli, Bakker, and van Rhenen (2009) conducted a longitudinal survey and discovered that changes in job demands predicted future burnout and work engagement. Although job demands are not necessarily negative, they may develop into “stressors” if they require that the employees invest too much effort and if trying to meet those demands is associated with negative outcomes such as anxiety, burnout, or even depression (Schaufeli & Bakker, 2004, p 296). Job demands, therefore, are used in this paper to refer to such organizational aspects as work overload (physical) or peer pressure (emotional). It is through this lens that we delineated job demands as a factor that moderates the relationships between engagement and job design and characteristics, and supervisor and co-worker relationships.

**Employee Perceptions of HRD Practices**

Referring to the activity or process of improving organizational performance through developing human knowledge, expertise, productivity, and satisfaction (McLean & McLean, 2001), Human resource development (HRD) is increasingly being recognized as pivotal to organizational functioning and effectiveness (Swanson, 2009; Vince, 2003). HRD practices cover a wide variety of issues, including employee training and development, career development, knowledge management and organizational change and quality improvement, to name a few. Evidence of the positive relationship between learning opportunities and the development of employee’s engagement has also been noted (Shuck, Rocco, & Albornoz, 2010). Organizations that are committed to and encourage various types of learning at work, including formal and informal training and development opportunities, can significantly impact the levels of engagement of their employees (Shuck, Rocco, & Albornoz, 2010). Additionally, Schaufeli and
Salanova (2011) pointed out that career development programs as well as work training programs specifically directed at personal growth and development could be used to foster work engagement among employees.

Despite HRD’s importance, there is a lack of empirical research that investigates the relationships between employee perceptions of HRD practices, employee engagement, and other organizational outcomes (Rurkkhum & Bartlett, 2012; Shuck et al., 2011). In this paper, we proposed that employee perceptions of HRD practices, including training and development opportunities, career development opportunities, and other relevant employee development programs moderate the relationships between job design and characteristics and engagement, workplace environment and engagement, as well as between supervisor and co-worker relationships and engagement.

**Step 2: Laws of Interaction in the Theoretical Model of Employee Engagement**

The laws of interaction in a theory refer to the relationships among the units (or concepts) of that theory (Dubin, 1978). The laws of interaction exemplify how changes in one or more units of the theory impact the other units. Dubin (1978) delineated three types of laws of interaction: categoric, sequential, and determinant.

Categoric laws suggest that the values of a unit of a theory are related to the values of another unit of the theory (Dubin, 1978). This type of law indicates that there is “a greater-than-chance probability that the units are related” (Dubin, 1978, p. 98). In addition, categoric laws are “symmetrical in nature” (Lynham, 2002, p. 249), meaning that it does not matter whether one particular unit or the others come first. Sequential laws of interaction are “asymmetrical”, denoting a “time lapse” between the units of interest and that a “unidirectional” relationship (Lynham, 2002, p. 250). Finally, a determinant law of interaction is “one that relates determinate
values of one unit of the theory with determinate values of another unit” (Lynham, 2002, p. 250). Determinant laws of interaction define specific associations of the units with determinate values and therefore are often employed in the physical sciences (Lynham, 2002).

Dubin elected “parsimony as the single criteria” for assessing the laws of interaction in a theoretical model (Chermack, 2004, p. 311). Parsimony could be achieved by minimizing the complexity and number of laws necessary to linking the relationships between the units of the model (Chermack, 2004). Our proposed theoretical model of the antecedents and outcomes of employee engagement is comprised of the following laws of interaction. It is important to note that a statement of interaction or relationship does not imply causality (Dubin, 1978).

**Categorical Laws:**

1. There is a greater-than-chance probability that job design and characteristics, supervisor and co-worker relationships, workplace environment, personal characteristics, employee perceptions of HRD practices, and job demands are associated with employee engagement.

2. There is interaction between employee engagement and employee job performance, turnover intention, and organizational citizenship behaviors.

**Sequential Laws:**

3. Job design and characteristics, supervisor and co-worker relationships, workplace environment, individual characteristics, employee perceptions of HRD practices, and job demands parallel, or precede employee engagement.

4. Employee engagement parallels, or precedes employee job performance, turnover intentions, and organizational citizenship behaviors.
Step 3: The Boundaries of a Theoretical Model of Employee Engagement

Dubin (1978) maintained that in order for a theoretical model to be able to represent an “empirical system”, it has to have boundaries that correspond to that system (p. 125). The boundaries of a model outline the domains within which the model is expected to apply (Dubin, 1978); in other words, they establish the “real-world limits of the theory” (Lynham, 2002, p. 253). Dubin (1978) distinguished between a closed and open boundary, defining a closed system as “one in which some kind of exchange takes place between the system and its environment” (p. 253) and an open boundary as one in which “there is exchange over the boundary between the domains through which the boundary extends” (Torraco, 1994, p. 162).

It should be noted that the boundaries of a theory are determined “not by empirical data but through the use of logic” (Lynham, 2002, p. 253). It is the role of the researcher-theorist to use logical reasoning to identify these boundaries. In line with this, we identified two boundaries, one closed and one open, for our theoretical model of engagement. The closed boundary refers to the overall domain in which the employee engagement system is expected to apply. It is the legally defined, human populated system in which organizations reside. The open boundary exists within this closed boundary and refers to the organizational and contextual environment whereby employee engagement, its antecedents, and its consequences take place. This open boundary would mean that the organizational system interacts with and is influenced by its external environment (social, political, technological, and economic).

Step 4: System States of a Theoretical Model of Employee Engagement

A system state, referring to the “state of the system as a whole”, may be defined by three features: “1) all units of the system have characteristic values, 2) the characteristic values of all units are determinant, and 3) the constellation of unit values persists through time” (Dubin, 1978,
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p. 144). Dubin (1978) also identified three criteria of system states, namely, inclusiveness (all the units of the system are included in the system state), having determinant values (all units have measureable values and are distinctive or unique), and persistence (the state of the system persists through a period of time).

We believe that our theoretical model satisfies all three requirements because it includes all the critical units of the system and these units have characteristic values (at least the units that have been identified as important in the existing literature on engagement), there is no overlap in values between the units (i.e., each unit can be assigned a distinctive value), and the proposed relationships between the units persist overtime.

According to Dubin (1978), system states are designated by examining the laws of interaction. A system characterized by a categoric law of interaction often has the following format: “if…, then… under conditions of…” (p. 152). Using this logic, we employed a (0, 1) coding and identified the following system states for our model:

1. If job design and characteristics, supervisor and co-worker relationships, workplace environment, personal characteristics, employee perceptions of HRD interventions, and job demands exist in the system, then employee engagement transitions from 0 to 1 under the conditions that these units are used, encouraged, supported, and alleviated in such a way that is aligned with the enhancement of employee engagement.

2. If employee engagement is present in the system, then job performance, turnover intentions, and organizational citizenship behaviors shift from 0 to 1 under the conditions that employee engagement is fostered to a high level.
A THEORETICAL MODEL OF EMPLOYEE ENGAGEMENT

Step 5: Propositions of a Theoretic Model of Employee Engagement

A proposition is a “truth statement about a model when the model is fully specified in its units, laws of interaction, boundary, and system states” (Dubin, 1978, p. 160). Dubin (1978) cautioned that *truth* here should be “kept clear of its metaphysical connotations” and may be thought of as equivalent to “*logical consequence*” (p. 160; emphasis in original). Propositions concern the ways in which the model are applied and are subject to empirical testing. We formulated 8 propositions from our theoretical model of the antecedents and outcomes of employee engagement:

*Proposition 1:* Job design and characteristics are associated with employee engagement, such that a person who has a job that is meaningful, offers adequate compensation and rewards, provides a high level of autonomy, enables them to participate in important decision making processes, offers adequately challenging duties and responsibilities, and supports career ambitions, will be more likely to engage.

*Proposition 2:* Strong and supportive supervisor and co-worker relationships are related to high levels of employee engagement.

*Proposition 3:* Workplace environment, such as adequate physical resources, safety, supportive workplace climate, and collectively engaged workplace, is positively associated with employee engagement.

*Proposition 4:* Individual characteristics, such as having a proactive personality, conscientiousness, optimism, high-achievement orientation, and self-efficacy, are associated with high levels of employee engagement.
Proposition 5: The relationships between job design and characteristics, supervisor and co-worker relationships, workplace environment, and employee engagement are moderated by employee perceptions of HRD practices.

Proposition 6: The relationships between job design and characteristics, supervisor and co-worker relationships, workplace environment, and employee engagement are moderated by job demands.

Proposition 7: Employee engagement is positively related to job performance.

Proposition 8: Employee engagement is inversely related to employee turnover intentions.

Proposition 9: Employee engagement is positively related to employee organizational citizenship behaviors.

Conclusions and Implications

The importance of engagement has been widely discussed in both academic and practitioner literature. Given the claimed benefits associated with having a highly-engaged workforce, organizations are rigorously exploring ways and introducing initiatives whereby they could develop and enhance the levels of engagement of their employees.

INSERT FIGURE 1. HERE

Using the first five steps of Dubin’s (1978) theory-building method, we have developed a theoretical model of the antecedents and outcomes of employee engagement. This article specified the units of the model, laws of interaction, boundaries, system states, and propositions derived from the model (see Figure 1). The significance of this article is that it offers a logical ground on which empirical indicators and hypotheses could be identified and tested so as to verify the theory.
It would be logical, then, to propose that future work should entail the use of the next three phases of Dubin’s (1978) methodology, namely identifying empirical indicators of the key terms, constructing hypotheses, and the actual testing of the theoretical model. Needless to say, completion of these next steps would result in an “empirically verified and trustworthy” model (Lynham, 2002, p. 243). We believe that our theoretical model would positively contribute to the paucity of structured literature on the antecedents and outcomes of engagement, and that it will provoke reactions and discussions from scholars and practitioners alike on this fascinating topic of employee engagement.

As far as practice is concerned, it is our hope that the model will contribute to organizations’ efforts in understanding and embracing the concept of engagement. The presented framework may serve as a clear roadmap towards the “engaged” work force as it addresses the key antecedents of employee engagement, which should become of managers’ concern. Organizations should seek to create a workplace that is supportive, empowering, safe, and meaningful for employees. In particular, managers should aim at designing jobs in such a way that minimizes cognitive, emotional, and physical tension among employees (May et al, 2004). To wit, managers should not “overload” employees with work that demand high cognitive processing labor, or require them to perform extensive emotional labor without having breaks (p. 33). Managers should also foster employee perceptions of safety by developing a supportive and trusting work environment. This can be achieved through encouraging employees to solve work-related problems on their own, develop new skills, and participate in the decision-making process, and treating employees fairly (May et al., 2004).

Another practical implication is that managers need to provide employees with resources and benefits that will instigate a reciprocity norm amongst them. When employees feel the need
to give back to the organization, they are more likely to have a higher level of engagement.

Managers also need to understand that different things are perceived as important by different employees; therefore, a one-size-fits-all approach to engagement might not be the most effective. They need to understand their individual employees and align the resources and social support with their needs. In addition, managers should be aware that employee engagement is a long-term and on-going process that requires constant interactions and communication (Saks, 2006). Finally, engagement needs to be investigated as a broad organizational and cultural strategy that involves all levels of the organization’s hierarchy (Saks, 2006).
References


Sheldon (Eds.), *Human autonomy in cross-cultural context: Perspectives on the psychology of agency, freedom, and well-being* (pp. 163-187). New York: Springer.


Figure 1. A theoretical model of the antecedents and outcomes of employee engagement