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# Workplace Spirituality and Pro-Environmental Behavior: The Role of Employee Engagement and Environmental Awareness

By Miss Ayesha Latif & Miss Sidra Aziz

*Hazara University*

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# Workplace Spirituality and Pro-Environmental Behavior: The Role of Employee Engagement and Environmental Awareness

Miss Ayesha Latif <sup>α</sup> & Miss Sidra Aziz <sup>σ</sup>

**Abstract-** A key challenge facing organizations is how to encourage employees to engage in pro-environmental behaviors. Workplace spirituality has been conceptualized as offering new insights into how individuals experience a deeper level of intrinsic work motivation and engagement. Based on a survey of 349 nurses, we found that workplace spirituality was significantly associated with nurses' pro-environmental behavior and that employee engagement indirectly affects the relationship between workplace spirituality and pro-environmental behavior. The results suggest that environmental awareness moderated the effect of workplace spirituality on pro-environmental behavior of nurses. Managers of nursing services should consider workplace spirituality and its positive influence on nurses' outcomes in order to improve their performance and, subsequently, the healthcare system.

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## I. INTRODUCTION

There is growing public concern about the environment and related protection issues that have occurred in recent years (Abdelzaher & Newbury, 2016; Binder & Blankenberg, 2017; Sihvonen & Partanen, 2017; Tang & Lam, 2017). Environmental issues, such as climate changes, ozone depletion, deforestation, depravation of ecosystems and loss of biodiversity, are among the matters that have attracted a lot of attention. As the role of businesses in environmental protection becomes more prominent, companies need to be more responsible toward the environment; companies should adapt their business activities to include environmental protection and appropriate management of natural resources (Wassmer, Paquin, & Sharma, 2014). In today's uncertain world, organizations support their employees to be active and thus enable the organization to progress more effectively. Organizations require personnel who are pioneers and active regardless of their position in the organizational hierarchy.

Corresponding to the awareness that employee engagement in greening organizations is crucial to organizational environmental stewardship and performance, scholars have increasingly studied pro-environmental behavior at work (Andersson et al., 2013).

The concept of pro-environmental behavior is defined as individual behavior that contributes to organizational environmental sustainability (e.g., saving office supplies, separating trash at the source, open communication and information sharing among employees regarding environmental sustainability) that is under the volitional control of employees (Kim et al., 2017). Employee's pro-environmental behavior (PEB) essentially contributes to promote sustainable development (De Groot & Steg, 2010). The participation of nurses to address environmental issues and engage in eco-friendly behaviors is considered as an effective strategy to become environmentally responsible organization and enhance environmental performance (Djellal & Gallouj, 2016; Kangasniemi, Kallio, & Pietilä, 2014).

Hospitals generate substantial environmental impacts (Blass et al., 2017). Although adopting green organizational practices is important, the role of individual employees is equally significant (Lamm et al., 2015); implementation will be impossible without their active participation (Jenkin et al., 2011). Notwithstanding the growing attention to PEB, there is a dearth of empirical studies on the factors associated with these behaviors (Lamm et al., 2015). This study is going to explore how workplace spirituality can enhance PEBs among nurses through mediating effect of employee engagement and moderating effect of environmental awareness? One important way that organizations can improve environmental performance is by more effectively engaging their employees. Engagement has emerged as an important organizational behavior variable that contributes significantly to employee productivity and organizational performance (Saks, 2011). While a considerable number of studies have been conducted on employee engagement, much still remains to be learned about its antecedents (Rich, Lepine, & Crawford, 2010; Wollard & Shuck, 2011). This includes the need to better understand the underlying intrinsic motivation basis for employee engagement (Meyer & Gagne, 2008) and how the level of engagement is impacted by work meaningfulness (Hughes & Rog, 2008). Workplace spirituality is a construct of increasing interest to scholars who see it as providing new insights into work meaning (Rosso, Dekas, & Wrzesniewski, 2010), and employee work attitudes (Benefiel, Fry, & Geigle, 2014; Milliman,

Author <sup>α</sup> <sup>σ</sup>: Department of Management Sciences Hazara University Mansehra Pakistan. e-mail: ayeshalatifhu@gmail.com

Gatling, & Bradley-Geist, 2017), including engagement (Saks, 2011).

This study seeks to build on two previous empirical workplace spirituality-engagement studies (Petchsawang & McLean, 2017), by examining three dimensions of workplace spirituality which are conceptually similar to key sources of work meaning as observed in Rosso et al.'s (2010) review of the meaning of work literature. In contrast to prior research, the current study also includes a more recently developed operationalization of engagement by Rich et al. (2010) to avoid potential confounding of this construct with the meaningful work dimension of workplace spirituality. In addition, this is the first investigation to empirically determine the joint effects of workplace spirituality and engagement on employee pro-environmental behavior. In doing so, this study seeks to provide new insights into the antecedents and outcomes of engagement (Wollard & Shuck, 2011; Yeh, 2013) as well as address the need for more empirical research on how workplace spirituality theory can influence organizational behavior variables and performance (Giacalone & Jurkiewicz, 2003).

Qu et al. (2015) defined environmental awareness as the concern and the knowledge people have about anthropogenic influences on the environment and climate. Kollmuss and Agyeman (2002, p. 349) argued that "because of the non-immediacy of ecological destruction, emotional involvement requires a certain degree of environmental knowledge and awareness." Notwithstanding the evidences that the workplace spirituality can lead to PEB, according to its definition, workplace spirituality leaves employees with considerable latitude. Thus, the interaction of environmental awareness with workplace spirituality is likely to strengthen this relationship and increase employees' participation in environmentally friendly behaviors (Afsar et al., 2016).

Enabling the expression of human experience at its deepest, most spiritual level may help organizations to achieve greater environmental performance (Laszlo & Zhexembayeva, 2011).

Notwithstanding the abundance of research observing the motivational factors underlying people's participation in PEB in public and private settings (Ozaki, 2011; Steg et al., 2014), there is a gap in the literature regarding employees' engagement in PEB in the workplace (Ruepert et al., 2016; Temminck, Mearns, & Fruhen, 2015). Previous research on this subject suggests that materialistic rewards and penalties are considered the least significant mechanism in encouraging employees to engage in such behaviors (Zibarras & Ballinger, 2011). Thus, there seems to be a lack of a suitable theoretical model to foster employees' involvement in sustainable behaviors on a spiritual level, which is not necessarily motivated by a materialistic framework (Temminck et al., 2015). Since it is known

that less tangible motivations are more significant drivers of individuals' PEB in comparison to tangible motivations (Vaske & Kobrin, 2001), it is plausible to focus on employees' PEB through the lens of workplace spirituality. Despite widespread discussions about the role of workplace spirituality in organizational management literature (Afsar et al., 2016), there are hardly any studies in literature that have empirically extended to this significant variable (Gatling et al., 2016). Moreover, spirituality is an under-researched phenomenon in the health-care context (Ebrahimi et al., 2016).

## II. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Invoking spirituality at work through promoting the employees' sense of social connection, membership and transcendence motivates them intrinsically to strive for the social good out of concern for future generations (Afsar et al., 2016). Previous studies have found that spirituality is a very strong motivator for people to engage in pro-social and volunteer work (Nash & Stewart, 2002, p. 47), and the stronger the spirituality factor in individuals, the more altruistic and citizenship behavior they exhibit (Kazemipour et al., 2012). Given the non-obligatory nature of PEB, it is vital for organizations to know how to motivate employees to participate in activities that go beyond their normal work duties (Ones & Dilchert, 2012). Scholars believe that the combination of organizational and individual factors influence these behaviors (Paillé & Raineri, 2015).

### a) *Workplace spirituality and employees' pro-environmental behaviors*

Research on workplace spirituality has increased significantly in the past two decades (Joelle & Coelho, 2017). As noted by Houghton et al. (2016), a commonly cited definition in the literature is by Ashmos and Duchon (2000) who defined workplace spirituality as "... the recognition that employees have an inner life that nourishes and is nourished by meaningful work that takes place in the context of community" (p. 137). Workplace spirituality shares a commonality with the emerging positive organizational scholarship field in focusing more explicitly on the humanistic aspect of work (Lavine, Bright, Powley, & Cameron, 2014) by seeking to more fully understand the human experience, including the drive for self-actualization (Joelle & Coelho, 2017), self-development, and more complete selfexpression at work (Pawar, 2009). Workplace spirituality is seen as a multi-faceted construct influencing an individual's intrinsic motivation (Sharma & Hussain, 2012) and as involving one's "inner consciousness" and search for meaning (Houghton et al., 2016). A key theme of the literature on workplace spirituality is that people desire to not just be competent in their work, but also to have some other kind of

personally meaningful experience at work. This type of experience can involve a variety of aspects such as a sense of transcendence, meaningful and purposeful work, a connection to others or to a higher power, the experience of one's "authentic" self, being of service to others or to humanity, and belonging to a good and ethical organization (Milliman et al., 2017).

Benefiel et al. (2014) observed that workplace spirituality is seen as providing new insights into employee work attitudes and that a full understanding of organizational reality is incomplete without considering people's spiritual nature. The employee's experience of spirituality in the workplace is called workplace spirituality (Pawar, 2009). This concept refers to an employee-friendly work setting that cultivates and supports the spirit of the employees (Pandey et al., 2009). A moralistic and spiritual perspective encourages and motivates people to protect and conserve nature (Gatling et al., 2016). Workplace spirituality "is about feeling connected with and having compassion toward others, experiencing a mindful inner consciousness in the pursuit of meaningful work and that enables transcendence" (Petchsawang & Duchon, 2009, p. 461). Workplace spirituality enhances employees' self-transcendence values (Giacalone & Jurkiewicz, 2003) and motivates them to participate in activities that care for environment.

Workplace spirituality develops the sense of unity and connectedness among employees (Gatling et al., 2016). This sense of community motivates employees to demonstrate pro-social behaviors and care for others at work and makes them go beyond their own responsibilities and perform citizenship behavior (Kazemipour et al., 2012). Empirical studies have suggested that employees with a high sense of workplace spirituality are bound to exhibit OCB. Nash and Stewart (2002) state that spirituality is a strong motivator and a life-giving energy that spurs individuals to participate in volunteering for social works and acting in the social good for the welfare of others and the community. Many studies have asserted that the activation of concepts related to spirituality positively affects people's pro-social attitudes and behavior. Stead and Stead (2014) believed that sustainability has roots in spirituality. The literature also includes many references that assert the relationship between spirituality and environmentally sustainable behavior. For example, Pandey et al. (2008) explained that workplace spirituality is about finding harmony between one's self, the community and the natural environment. Csutora and Zsóka (2014) found a meaningful correlation between people's spirituality on the one hand and their environmental concerns and the sustainability of their lifestyles on the other. Furthermore, workplace spirituality nourishes the spirits of employees in diverse ways and makes them think about the wellbeing of society and the environment (Wierzbicki & Zawadzka,

2014). Since PEB is voluntary in nature and is considered as a type of organizational citizenship behavior towards the environment (Paillé & Raineri, 2015), and given the positive relationship between workplace spirituality and employee's organizational citizenship behavior towards the environment (Afsar et al., 2016), it is quite plausible to assume the following:

*H1: Workplace spirituality is positively associated with nurses' pro-environmental behaviors.*

#### *b) Workplace spirituality and employee engagement*

Employee engagement has been subject to a number of definitions. The construct was first defined by Kahn (1990) as involving one's "preferred self" and as "...the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances" (p. 694). Engagement has also been viewed by Schaufeli et al. (2002) as involving an individual's full identification with his or her work, encompassing aspects such as (1) vigor (high levels of energy, enthusiasm, and resilience), (2) dedication (in-depth association with one's job involving significance, motivation, and challenge), and (3) absorption (being fully involved with one's work tasks). Engaged employees are seen as providing their full effort toward both their (1) main job tasks and responsibilities and (2) extra-role behaviors. Engagement is seen as a distinct construct in relation to other organizational behavior variables, in part because it involves one's full self in the experience of work and it impacts the performance of actual work tasks directly, rather than just work attitudes related to performance (Saks, 2011).

Meyer and Gagne (2008) called for more research to identify and explain the underlying human intrinsic motivation needs that lead to higher levels of engagement. Similarly, other researchers contend that greater attention should be given to the study of how employee engagement is influenced by the fulfillment of an individual's inner needs and through the experience of work meaning (Jung & Yoon, 2016) and work meaningfulness (Ahmed, Halim, & Majkd, 2016; Cartwright & Holmes, 2006; Chalofsky & Krishna, 2009; Shuck & Rose, 2013). Work meaning is defined as how an individual makes sense of and interprets what his or her work means within the overall context of one's life and needs. This construct refers to the sources of the work environment that influence one's sense of work meaning (e.g. job, coworkers, leaders, the organization's mission, etc.). Work meaningfulness is a related term that defines the amount of significance an aspect of work holds for a person (Pratt & Ashforth, 2003), including elements of work that involve intrinsic motivation (Shuck & Rose, 2013). Consistent with Rosso et al.'s (2010) observation that a person's sense of spirituality can influence his/her sense of work



meaningfulness and purpose, we postulate that workplace spirituality influences an individual's level of engagement. This view is supported by Saks (2011) and Izak (2012) who proposed that an individual's sense of spirituality at work can influence their meaningfulness at work, resulting in higher levels of engagement.

Similarly, other scholars contend that the pursuit of a spiritual experience at work leads individuals to seek their full potential and experience a greater sense of intrinsic motivation (Osman-Gani, Junaidah, & Ismail, 2013) and self-fulfillment (Pawar, 2009), which lead to increased engagement. Afsar et al. (2016) conducted the first empirical study of the relationship of engagement to workplace spirituality which was operationalized by three dimensions involving meaningful work, community, and alignment of organizational values. These dimensions are based on the research of Ashmos and Duchon (2000) and operationalized by Milliman, Czaplewski, and Ferguson (2003) involving an individual's perception of workplace spirituality at the following three levels: (1) the individual level - involving meaningful or purposeful work (including seeing one's work as a calling), (2) the group level - involving community or a sense of belonging to others at work, and (3) the organizational level - encompassing an employee's perceived fit between his or her personal values with those of the organization's values (including social and ethical aspects).

As noted in Benefiel et al.'s (2014) literature review, two or more of these dimensions have been examined in a number of workplace spirituality studies. These three workplace spirituality dimensions are conceptually similar to Rosso et al.'s (2010) observation that key sources of work meaning include a sense of community and group (involving a sense of shared identity and opportunities to contribute value to others), and the work context (including one's attitude toward his/her job tasks and organization's mission and values). As such, the workplace spirituality dimensions of meaningful work, community, and alignment of organizational values can be seen as one way that individuals experience intrinsic work meaning and in turn increase their level of engagement. Sharma and Hussain (2012) found a positive relationship between a combined report of these three workplace spirituality dimensions and the vigor dimension of engagement as measured by the Utrecht Work Engagement Scale (UWES) instrument (Schaufeli et al., 2002). A more recent study by Petchsawang and McLean (2017) found that four dimensions of workplace spirituality (meaningful work, compassion, transcendence and mindfulness) operationalized as a single higher order construct, was positively related to employee engagement as measured by the UWES instrument. While the Petchsawang and McLean (2017) and Sharma and Hussain (2012) studies provide important insights into the relationship of workplace spirituality to

engagement, we observe some limitations in them. First, as noted by Rich et al. (2010), the UWES instrument includes some survey items related to job challenge and meaningfulness that can confound engagement with work meaningfulness. This is a concern since both the Sharma and Hussain's (2012) and the Petchsawang and McLean (2017) investigations used the UWES survey in conjunction with the workplace spirituality dimension of meaningful work. Second, Sharma and Hussain's (2012) study had a relatively small sample size (60 managers) and its analysis involved only zero-order correlations. Third, the Petchsawang and McLean (2017) study involved only one dimension in common (meaningful work) with that of Sharma and Hussain (2012) and our study. We seek to build on these two investigations in two ways. One, to more fully examine the relationship of engagement to three dimensions of workplace spirituality (meaningful work, sense of community, and alignment with organizational values) which can be seen as being conceptually similar to key sources of work meaning as indicated by Rosso et al. (2010). Two, we seek to avoid the confounding of engagement with meaningful work by examining how these three workplace spirituality dimensions are positively related to Rich et al.'s (2010) operationalization of engagement which is based on Kahn's (1990) original definition of engagement (e.g. its cognitive, physical, and emotional elements).

Organizational commitment has been found to enhance employee's engagement in organizational citizenship behaviors directed towards protecting the environment (Daily et al., 2009; Mesmer-Magnus et al., 2012). Drawing on findings from a multinational corporation's case study, Biga et al. (2012) argued that employees who are more engaged are more likely to display direct pro-environmental behaviors on the job. These behaviors include working sustainably or exhibiting conserving behaviors (p. 371). Employee engagement is highly correlated with meaningful work, sense of "calling", humanism, and loyalty (Milliman, Gatling, & Kim, 2018). These antecedents are also components of the workplace spirituality. This suggests that workplace spirituality may lead to increased employee engagement. That is, those who feel their jobs as meaningful, purposeful, connecting with coworkers and other people associated with work, and find better alignment of one's core beliefs and the values of their organization may be more likely to reciprocate with increased employee engagement.

Fry (2003) notes that workplace spirituality aspects cannot be over looked by future organizations. Kinjerski & Skrypnik (2006) in their work, have given the four dimensions of workplace spirituality; (1) engaging work, a belief that one is engaged in meaningful work that has a higher purpose; (2) a spiritual connection, a sense of connection to something larger than self; (3) a sense of community, a feeling of connectedness to

others and common purpose; and (4) a mystical experience, a positive state of energy, a sense of exactness, transcendence, and experiences of joy and bliss". Workplace spirituality has become a basic need for every organizations (Jason et al., 2014). Duggleby, Cooper and Penz (2009) contend that workplace spirituality is associated with a sense of spiritual well-being that fosters a condition of hope which is linked to empowerment. The meaning attached to work, as well as experiences of psychological meaningfulness, leads to positive work outcomes (Pratt & Ashforth, 2003)25,26 and specifically work engagement (May et al., 2004; Olivier & Rothmann, 2007). Spiritual connections are "the deeply ingrained principles that guide all a company's actions; they serve as its cultural cornerstones," observes Lencioni, P. M. (2002), (p. 114). Collins and Porras (1996)11 point out that for the sense of community and spiritual connection truly have an impact; they must reflect the inner needs, beliefs, and aspirations of the employees.

Through the sense of calling, workplace spirituality instills a sense of meaningfulness to one's work with the organization and should foster employee engagement. This relationship can be explained by the fact that jobs providing a sense of meaning make people feel they work in an environment that conveys values compatible with their own. It is widely documented that the sense of belonging to a collective is positively associated with employee engagement (Milliman, Gatling, & Kim, 2018). Since organizational attitudes have been consistently linked to OCBs (Podsakoff et al., 2000; Tepper and Taylor, 2003), it follows that employee engagement may be a potential mediator of the relation between the workplace spirituality and each facet of OCB. Past research has also revealed a substantial relation between employee engagement and OCB in a variety of different empirical studies and workplace contexts (Milliman, Gatling, & Kim, 2018). As argued earlier that PEBs are OCBs directed towards the environment, the greater the level of workplace spirituality, the higher the employee engagement, and the greater the likelihood of PEB. Thus we may hypothesize:

*H2:* There is a positive relationship between workplace spirituality and employee engagement.

*H3:* Employee engagement is positively related to pro-environmental behaviors.

*H4:* Employee engagement mediates the relationship between workplace spirituality and pro-environmental behaviors.

#### c) *Moderation by environmental awareness*

The socio-psychological model of Stern et al. (1993), which is originally based on Schwartz's (1977) norm activation model, asserts the assumption that for individuals to exhibit altruistic behavior, it is essential that they have awareness about the results of

performing or not performing a behavior in terms of social harm. Individuals' knowledge on environmental and sustainability concerns is essential (Fryxell & Lo, 2003). Environmental knowledge signifies the method of situating environmental conditions in a sustainable balance through economic and social developments (Jamison, 2003). Previous studies have determined different factors affecting pro-environmental behavior. Kaplan (1991), for instance, indicated that awareness affects an individual's decision-making significantly. Commonly, people tend to keep themselves away from the situations which they do not know much about. Amyx et al. (1994) argue that people have a great deal of information about environmental issues; thus, they tend to expend more money on eco-friendly products due to high level of environmental awareness (Chan et al., 2014). Increasing knowledge regarding environmental issues may add to people's concern and awareness (Bamberg & Mosser, 2007; Zsoka et al., 2013). Kollmuss and Agyeman (2002) have identified environmental awareness as the comprehension of the impact of an individual's behavior on the environment. Generally, it seems that environmental knowledge, values, attitudes and tendency to actual behaviors, which are influenced by intentional and positional factors, are the most important aspects of individual environmental awareness (Zsoka et al., 2013). Some investigations suggest that an individual's pro-environmental behavior can be influenced by different environmental motivations such as knowledge, awareness and concern (Chan et al., 2014; Kotchen & Reiling, 2000; Mostafa, 2009; Perron et al., 2006). In fact, the more a personnel's knowledge regarding waste management such as recycling increases, the more they indicate sustainable green behaviors (Tudor et al., 2008).

Chan et al. (2014) pointed out that people's environmental awareness could enhance their green behavior. For example, individuals with higher environmental awareness purchase goods with eco-friendly labels, consume organic fruits and participate in recycling activities. Some people, after knowing the serious impacts of chlorine fluoride on the ozone layer, do not use hair sprays anymore. Another study also proved that awareness of the outcomes of recycling programs plays a significant role in a personnel's green behavior (Tudor et al., 2008). When employees are knowledgeable and well aware of the ecological degradation environmental issues and the importance of eco-friendly practices, they are more likely to actually show green behaviors (Afsar et al., 2016). Retrospective studies have asserted the significant role of environmental awareness in individuals' PEB and green consumption (Kim & Han, 2010; Ryan & Spash, 2008). Afsar et al. (2016) proved that the interaction of individuals' sense of responsibility and concern about the results of their activities (i.e., environmental

awareness) with their sense of community membership and meaningfulness in life (i.e., workplace spirituality) can activate their moral obligation and result in PEB. Moreover, numerous studies have indicated that when employees are aware of environmental problems, they are more likely to exhibit eco-friendly behaviors

(Crossman, 2011; Zilahy, 2004). Therefore, we hypothesize the following:

H5: Environmental awareness strengthens the relationship between workplace spirituality and PEB.

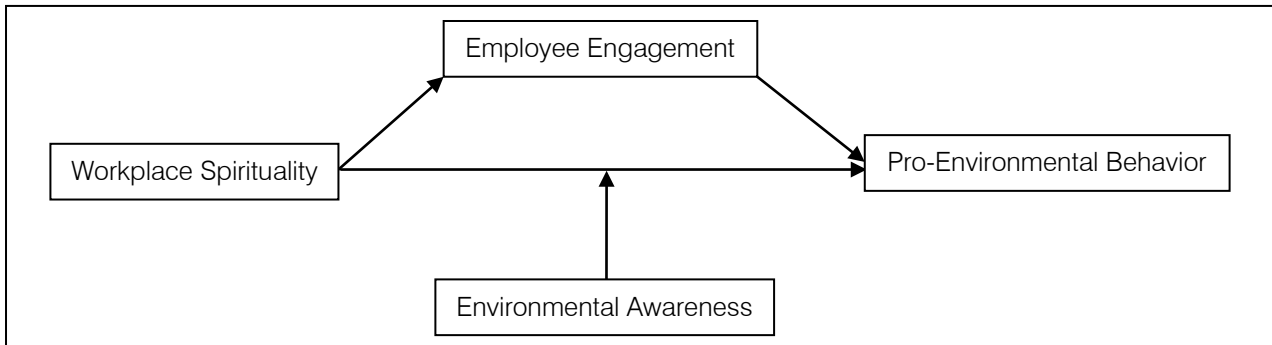


Figure 1: Conceptual Framework

### III. METHODOLOGY

#### a) Sample and data collection

The targeted population was composed of all registered nurses who worked at nine public and general hospitals located in different cities of Pakistan, numbering around 2960 nurses. Prior permission was granted from the hospital management to conduct this study. In total, 17 hospitals were contacted but only nine agreed to participate in this study. The number of beds ranged from 200 to 800. A total of 700 responses questionnaires were distributed among nurses, out of which 365 were returned, out of which 16 were unusable. Consequently, 349 questionnaires were used for further analysis, a response rate of 49.8%. The demographic information of the respondents indicates that the sample was 88.4% female and that 40.2% of respondents were between 30 and 39 years of age. Almost 24% of the respondents' nursing experience ranged from 1 to 5 years, and about 32% of nurses had one to three previous nursing positions before working in these hospitals.

#### b) Measures

Workplace spirituality was measured with 12 items selected from the meaningful work and alignment with the organization's values survey scales of Ashmos and Duchon (2000) and the sense of community scale from Milliman et al. (2003). Employee engagement was operationalized through 12 items selected from Rich et al. (2010). The pro-environmental behavior scale developed by Robertson and Barling (2013) was used for this study. Sample items include "I print double sided whenever possible" and "I take part in environmentally friendly programs". EA was measured by four items from Ryan et al. (2008). A sample item from the scale was the following: "The effects of pollution on public health are worse than we realize". All constructs were measured on a five-point Likert scale.

#### c) Results

Prior to testing the hypothesized structural model of this study, a measurement model was assessed using confirmatory factor analysis (CFA) involving the eight constructs (i.e. meaningful work, sense of community, alignment with organizational value, physical engagement, emotional engagement cognitive engagement, environmental awareness, and pro-environmental behavior) (Anderson & Gerbing, 1988). The initial measurement model provided a good fit to the data:  $\lambda^2$  (588) = 1584.38,  $p < .05$ ,  $\lambda^2/df = 2.69$ , CFI = .924, IFI = .924, TLI = .918, RMSEA = .071. These statistics met the standards considered necessary of a good fit for the Comparative Fit Index (CFI), Tucker-Lewis index (TLI), and Incremental Fix Index (IFI) with their values of .90 or higher, Root Mean Square Error of Approximation (RMSEA) value of .08 or less, and  $\lambda^2/df$  value of 3 or less (Anderson & Gerbing, 1988; Byrne, 2006; Hair, Black, Babin, Anderson, & Tatham, 2006).

This study used the three first-order workplace spirituality factors to create a higher-order (i.e., second-order) workplace spirituality factor and three first-order engagement factors to create a higher-order engagement factor. This second-order factor analysis was employed to create a more parsimonious and interpretable model with fewer parameters, as recommended by Gustafsson and Balke (1993) and Rindskopf and Rose (1988). This approach is also consistent with previous studies on workplace spirituality (Crawford, Hubbard, Lonis Shumate, & O'Neill, 2008; Gatling, Kim, & Milliman, 2016) and engagement (Rich et al., 2010). The second-order measurement model showed a good fit:  $\lambda^2$  (467) = 1213.67,  $p < .05$ ,  $\lambda^2/df = 2.59$ , CFI = .947, IFI = .947, TLI = .935, RMSEA = .067. The results of the second-order factor analysis indicate that significant positive relationships between first-and second-order factors exist in both workplace spirituality

and employee engagement, as evidenced by high standardized factor loadings as follows for (1) workplace spirituality: meaningful work (MW), .93; sense of community (SC), .85; and alignment with organizational values (AOV), .86 and for (2) employee engagement: physical engagement (PE), .89; emotional engagement (EE), .84; and cognitive engagement (CE), .86 ( $p < .05$ ). These results support that these first-order factors accurately represent the underlying concepts of workplace spirituality and employee engagement. That is, nurses tend to view (1) workplace spirituality as a combination of MW, SC, and AOV and (2) employee engagement as a combination of PE, EE, and CE.

The Cronbach's alphas of the four construct ranged from 0.86 to 0.91, which shows that the measures are internally consistent with the recommended criterion of 0.70. Convergent validity was evaluated by observing the Composite Reliability (CR) and Average Variance Extracted (AVE). Composite reliability values for all four constructs ranged from 0.81 to 0.88, which is greater than the minimum threshold value of 0.70 and AVE values ranged from 0.66 to 0.76, exceeding the acceptable value of 0.50. Next,

discriminant validity was assessed by determining whether the square root of every AVE value belonging to each construct is much larger than any correlation among any pair of latent constructs (Fornell *et al.*, 1981). The results showed that the square root of AVE belonging to WPS (0.76), EE (0.73), EA (0.66) and PEB (0.72) were greater than the correlation among any pair of constructs.

The means, standard deviations, and inter-correlations among research variables have been presented in Table 1. WPS correlated significantly with education ( $r = .12$ ,  $p < .001$ ), EE ( $r = .28$ ,  $p < .001$ ), EA ( $r = .34$ ,  $p < .01$ ), and PEB ( $r = .44$ ,  $p < .001$ ). Hypothesis H1 and H2 proposed that WPS will positively related to employees' PEB and EE respectively. As shown in Table 1, there is a significant positive relationship between WPS and PEB ( $r = 0.44$ ,  $p < .001$ ), and also EE ( $r = .28$ ,  $p < .001$ ), thus supporting the H1 and H2. H3 proposed that employee's EE is positively related to their PEB. The result shows that there is a significant positive relationship between EE and PEB ( $r = 0.29$ ,  $p < .001$ ), thus supporting H3.

Table 1: Descriptive Statistics

	Variables	M (SD)	$\alpha$	1	2	3	4	5	6	7	8
1	Age	33.28 (4.38)		1							
2	Gender	.87 (.15)		-.02	1						
3	Tenure	6.48(3.92)		.35*	-.11**	1					
4	Education	14.68(2.19)		.03	-.14***	.04	1				
5	WPS	3.79(.56)	.86	-.04	.07	.14*	.12***	1			
6	EE	3.84(.47)	.89	.11	-.08	.03	.05	.28***	1		
7	EA	3.57(.31)	.91	.08*	.09*	.02	-.03	.34**	.17***	1	
8	PEB	4.12(.26)	.87	.18**	.04	.13**	.19**	.44***	.29***	.32***	1

Note: WPS for workplace spirituality; EE for employee engagement; EA for environmental awareness; PEB for pro-environmental behavior; \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$  (2-tailed test).

The findings regarding the indirect effect of WPS on PEB via EE is summarized in Table 2. As mentioned before, H2 proposed EE as a partial mediator of the impact of WPS on PEB. Following Baron and Kenney (1986) model, in the analysis predicting EE, age, tenure and education entered in step 1 and WPS in step 2. For predicting PEB, age entered in step 1, WPS

in step 2 and EE in step 3. The results showed that when EE ( $\beta = 0.21$ ,  $p < .001$ ) was entered in the analysis, the magnitude of the WPS impact ( $\beta = 0.46$ ,  $p < .05$ ) on PEB decreased but, remained significant. Thus the findings showed that EE partially mediated the impact of WPS on PEB, supporting hypothesis 4.

Table 2: Regression Results: direct and indirect effects

Variables	EE				PEB					
	$\beta$	t	$\beta$	t	$\beta$	t	$\beta$	t	$\beta$	t
Step 1										
Age	-.04	-.15	-.06	-.32	.06	1.01	.04	.82	.05	.88
Education	.15**	3.32	.11**	3.01	.11**	2.62	.05	1.24	.05	1.24
Tenure	.12*	1.94	.12*	1.92	.07	1.19	.06	1.02	.04	.87
Step 2										
WPS			.23***	3.78			.48**	8.99	.46*	8.23
Step 3										
EE									.21***	3.64
F		6.97*		6.58**		6.88*		22.29*		19.19*
R <sup>2</sup> at each step		.06		.08		.06		.21		.23
$\Delta R^2$				.02				.15		.02

Note: \*  $P < .05$ , \*\*  $P < .01$ , \*\*\*  $P < .001$  (2-tailed test)



Table 3 shows the results of multiple moderated regression analysis to test H5, which proposed the interactive impacts of WPS and environmental awareness (EA) on PEB. Once again following Baron and Kenney (1986) model, first control variable was entered into the analysis; in the second step WPS was entered along with the EA to predict PEB. Then in step 3, the interaction terms of WPS and EA were entered. The results in Table 3 show the positive relations of WPS ( $\beta = 0.43$ ,  $p < .01$ ), EA ( $\beta = 0.28$ ,  $p < .001$ ), with PEB.

The analysis show that the joint effects of  $WPS \times EA$  ( $\beta = 0.12$ ,  $p < .001$ ) on PEB is significant, suggesting that EA increase the positive impact of WPS on PEB. In addition, the researches plotted the  $WPS \times EA$  interactions at two levels of EA (e.g., +1 SD, -1 SD; Bauer *et al.*, 2005) and conducted a simple slope test to test the nature of the interaction. The result shows that EA augments the positive impact of WPS on PEB. Therefore H5 was supported.

Table 3: Regression Results: Moderating Effects

Variables	PEB					
	$\beta$	t	$\beta$	t	$\beta$	t
Step 1						
Age	.05	1.27	.03	.74	.04	.82
Education	.11*	2.46	.06	1.18	.04	.93
Tenure	.08	1.25	.08	1.14	.07	1.13
Step 2						
WPS			.43**	7.91	.04	4.16
EA			.28***	4.27	.32	1.68
Step 3						
WPS * EA					.69***	3.95
F		7.86**		21.84*		18.29*
R <sup>2</sup> at each step		.07		.24		.28
$\Delta R^2$				.17		.04

Note: \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$  (2-tailed test)

#### IV. DISCUSSION

This study examined the effects of workplace spirituality on employees' PEB and the indirect effect of EE on the relationship between workplace spirituality and PEB. The results of the study indicated that workplace spirituality was positively correlated with greater engagement in PEB. The findings also supported the mediating and indirect effect of EE on the relationship between workplace spirituality and PEB. That is, nurses who reported the experience of higher spirituality at work exhibited more engagement in PEB in the hospitals. Dutcher *et al.* (2007) also asserted the significant role of spirituality in motivating people to participate in environmental stewardship. As a result of this increased connection, which is associated with individuals PEB (e.g., Davis, Green, & Reed, 2009; Gosling & Williams, 2010; Hoot & Friedman, 2011; Zylstra *et al.*, 2014), for the first time in the literature it is proven that employee engagement also affects individuals' workplace PEB. This study contributes to the literature of sustainable organizational behavior by describing workplace conditions through which PEB can be fostered. The employees who can align their spiritual selves with the organization are more likely to display PEB. This study responds to the call of Raineri, Mejía-Morelos, Francoeur, and Paillé (2016) for the promotion of employee engagement in theory and practice as a precursor for PEB and to the call of Blok, Wesselink, Studynka, and Kemp (2015) for more empirical studies demonstrating employee engagement and the importance of PEB for a sustainable future.

Scholars have called for more research on how intrinsic motivation theory (Meyer & Gagne, 2008), including workplace spirituality (Sharma & Hussain, 2012) and work meaningfulness (Cartwright & Holmes, 2006; Chalofsky & Krishna, 2009), can provide insights into how employees become engaged in their work. This study found that employee perceptions of a higher order construct of workplace spirituality involving meaningful work, community, and alignment with organizational value was positively related to their level of engagement and contributes to the literature in several ways. First, it builds upon previous workplace spirituality and engagement studies (Petchsawang & McLean, 2017; Sharma & Hussain, 2012) which provided important insights into the relationship between these two constructs, but also contain some limitations. The most important contribution of the current study is that it addresses the potential confounding of the workplace spirituality dimension of meaningful work with the UWES measure of engagement used in previous research by utilizing Rich *et al.*'s (2010) engagement survey. In regards to Sharma and Hussain (2012), the current study utilizes a larger sample size and a more rigorous data analytic technique. In relation to Petchsawang and McLean (2017), our investigation uses three dimensions of workplace spirituality that have been found to be key sources of work meaning as noted by Rosso *et al.* (2010). As a result, the current study contributes to the literature in establishing how multiple aspects of workplace spirituality can influence engagement through the lens of work meaning. Specifically, the employees

who display greater levels of employee engagement try to protect the environment through sustainable behavior. However, the buffering role of environmental awareness in the relationship between workplace spirituality and employees' PEB should be taken into account as well.

The proposed framework is the first concerted engagement of spirituality and environmental issues in healthcare setting. This discourse can make tangible contributions to sustainability in hospitals. As spirituality is a universal phenomenon and engages every individual regardless of his or her religion or nationality, the adoption of strategies to disseminate spirituality throughout workplaces will be a game changer (Afsar *et al.*, 2016). However, as Faro Albuquerque *et al.* (2014) pointed out, epistemologically emotional and spiritual discourses have been marginalized in healthcare research.

While this study, to the best of our knowledge, is the first to test and report this specific pathway, the data pattern fits well within theoretical accounts of how workplace spirituality and EE might influence employee participation in sustainable behavior at work. We suggest that spirituality in the workplace can be a catalyst for organizations to achieve the ever-growing global demand for greening organizations. Developing spirituality in the workplace enables individuals to expand their consciousness to see the world free of constraints and to enrich their human relationships (Howard, 2002). Burkhardt (1989) stated that spirituality brings meaning in life and allows one to transcend beyond the present context. A sense of transcendence is a powerful reason for employees to consider future generations, which is in line with the notion of sustainability, or the belief that humans share a common future and should consider the benefits of future generations.

Lee *et al.* (2014) stated that workplace spirituality can be facilitated through respect, humanism and integrity within organizations. Thus, treating nurses accordingly can provide a spiritual climate in the workplace that motivates employees to aim toward self-transcendence, to go beyond their own selves and their own tasks, to care for the environment and align themselves with the organization's values. The current study adds to the emerging body of research contributing to PEB in work settings (Andersson *et al.*, 2005; Boiral & Paillé, 2012; Paillé & Boiral, 2013).

The current study proposes a number of practical implications. A first step that managers can take to promote a sense of workplace spirituality is to determine what aspects of work are most personally meaningful to their employees. As recommended by May, Gilson, and Harter (2004), managers can then attempt to fit employees to job roles that enable them to more fully express themselves, thereby leading to higher work meaningfulness and engagement. Such self-expression can also be enhanced by creating

opportunities for employees to provide more input on how to improve their work unit area and its greening strategies. This process of enhancing worker involvement and self-expression can also be extended to organizational level activities. For example, hospitals can communicate more clearly what organizational volunteering and greening opportunities are available and assist nurses in selecting initiatives that best match their particular interests. As suggested by Pratt and Ashforth (2003), such a process can promote a greater sense of community by creating deeper interpersonal connections among employees and between employees and their community. As the sustainable behavior of the employees at work is discretionary, workplace spirituality found to be a strong predictor tool through which the managers can indirectly provoke their employees to participate in such activities. However with regard to the impact of workplace spirituality on the employees' environmental behavior, the role of environmental awareness should not be underestimated. Providing employees with suitable environmental training is crucial to cultivate their awareness and knowledge and enhance their engagement in environmental behaviors (Bansal & Roth, 2000; Chan *et al.*, 2014).

#### a) *Limitations and future research*

The findings of the present research should be interpreted in the context of its limitations. Since contextual effects and cultural differences may affect individuals' attitudes and behavior towards environmental issues (Müller *et al.*, 2009) the findings of this study should be treated more cautiously, and future studies may replicate the proposed model in other settings. Cross-sectional nature of this study is another limitation. Workplace spirituality was operationalized in this study with three dimensions involving meaningful work, community, and alignment with organizational values that are consistent with variables found to be key sources of work meaning. Scholars should consider examining these three dimensions in conjunction with additional aspects of workplace spirituality from recent research by Petchsawang and McLean (2017) (e.g. such as transcendence among others) and Joelle and Coelho (2017) (emotional balance and inner peace) to provide additional insights into how workplace spirituality can influence employee engagement.

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