SERVANT LEADERSHIP AND NURSE'S PRO-ENVIRONMENTAL BEHAVIOR: THE ROLE OF AUTONOMOUS AND EXTERNAL MOTIVATIONS

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ARTICLE INFORMATION	Abstract
	Abstract: This study aims to investigate the relationships between servant leadership, pro-environmental behavior, and external and autonomous motivation among nurses, and whether external and autonomous motivations mediate the relationship between servant leadership and pro-environmental behavior. Based on a survey of 351 nurses, we found that servant leadership was significantly associated with pro-environmental behavior and that external and autonomous motivations indirectly affected the relationship between servant leadership and pro-environmental behavior. Moreover, servant leadership was found to interact with external motivation to predict pro-environmental behavior of nurses. Managers of nursing services should consider servant leadership and its positive influence on nurses' outcomes in order to improve their performance and, subsequently, the healthcare system. **Keywords:** Servant leadership; autonomous motivation; external motivation; pro-environmental behavior; green behavior; sustainability; nurses.

INTRODUCTION

Corresponding to a growing public concern about the long-term consequences of environmental degradation and climate change, companies around the world are proactively striving toward improved environmental responsibility and stewardship (Aguinis & Glavas, 2012). According to a study of over 6,000 greening initiatives in 635 firms in the 2009 Newsweek Top 500 Green Companies and in the Fortune 500 list, a vast majority of organizational greening efforts rely on "voluntary" employee participation (Afsar, Cheema, & Javed, 2018). Employee's pro-environmental behavior (PEB) essentially contributes to promote

sustainable development (De Groot & Steg, 2010). Foreign studies on employees' pro-environmental behavior have been relatively mature, while domestic studies are currently focused on issues such as corporate green performance and social responsibility. There are still relatively few studies on employees' green behavior in the workplace in Pakistan. Among many management departments, human resource management department plays an important role in the environmental management of enterprises (Afsar & Umrani, 2020). 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 (Afsar et al., 2020; Cheema et al., 2020).

Pro-environmental behavior study in psychology emphasizes the mechanism of an individual's psychological activity. Because of focusing on the general population and taking a context-free approach, psychology research often ignores the social processes of how oneself is shaped by others. Although conceptualizing a self as to a general population that models challenges associated with behaviors, it may be less relevant for environmental issue supporters. Theory of planned behavior and value-belief-norm theory are commonly used to study environmental issues (Afsar & Umrani, 2020). The former predicts intentions via attitude, social norms, and perceived control. The latter, by explaining the key factors related to value and identity, understands how to construct self and predictive behavior. A meta-analysis on drivers of pro-environmental behavior reveals that that psychological variables explain 52% of the variation in intention and only 27% in behavior (Bamberg & Möser, 2007). There is a positive correlation between identity, intention, and behavior in environmental issues (Truelove et al., 2014). Self-identification predicts a wide range of intentions and supporting behaviors (Walumbwa, Cropanzano, & Hartnell, 2009). Environmental beliefs have a strong impact on consumers' green behavior (Polonsky 2011). Xie et al. (2015) illustrated that consumers who value environmental sustainability will support green initiatives and condemn companies involved in environmental degradation. Afsar and Umrani (2020) found that consumers who have a high degree of belief in the environment are more likely to adopt sustainable environmental behaviors. Bissinger and Bogner (2018) expressed that environmental literacy is a key concept to promote individual behavioral changes.

Hospitals generate substantial environmental impacts (Blass et al., 2017). Although adopting green organizational practices is important, the role of individual employees is equally significant; implementation will be impossible without their active participation. Notwithstanding the growing attention to PEBs, 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 servant leadership and motivation can enhance nurses' PEBs. The role of leaders become extremely important when it comes to motivating employees to engage in discretionary behaviors such as pro-environmental behaviors. Among many leadership theories, this study contends that servant leadership is the most effective style of leadership to engage employees into PEBs. Servant leaders understand abilities, potential, goals, objectives, transcended needs, desires, and inspirations of their followers and motivate them to achieve higher purpose through trust, confidence, feedback, empowerment, and resources (McCann & Holt, 2010).

Another centering point of the study is the individual employee motivation which plays a vital role when it comes to develop PEBs. However, due to certain reasons the employee motivation has not been that much attended to, especially when it comes to the corporate sustainability literature, despite its primal nature in inducing the conduct of workers in the systematic establishments as Gagné and Deci (2005) presented in their work. Here, the self-

determination theory or SDT of human motivation mentioned in Deci and Ryan's works from 1985 and 2000, has been implied for analyzing the impact of employee motivation in influencing the PEBs. SDT has not only been applied to explore the motivational bounds in workplaces as Bono and Judge (2003) explain in their work, in accord with Gagné et al. (2010) as well as Otis and Pelletier (2005), but has been used to look into the conduct in regard to the environment within communal setups as various authors such as Osbaldiston and Sheldon (2003) and Pelletier et al. (2002) explained it.

The present work on the whole will be taking in the details regarding the question that in what possible ways the servant leading and worker motivational conduct tend to foretell workers' PEBs in accord with each other. The literature regarding servant leadership like the published works by Bass (1985) and Bono's in collaboration with Judge (2003), and the human motivation theory such as works of Baard, Deci, and Ryan (2004), Gagné and Deci (2005) and the ones from Van den Broeck, Vansteenkiste and De Witte (2008) clearly hints at the interlinked role of servant leading in regard to the environment and worker inspirational factors to be decisive in defining workers' PEBs. Those three variables namely, servant leadership, worker inspiration and PEBs all have been integrally connected to each other in complex manner as can be deduced from the literature regarding these variables. First of all, a literary review on servant leadership and the human motivation theory has been provided, followed by an overview of the present study's framework, leading to an argumentative logical elaboration of the relationships that have been suggested here.

LITERATURE REVIEW
Servant leadership

At this point it seems apt to quote Evangelist Billy Graham, as he says, "Tears shed for self are tears of weakness, but tears shed for others are a sign of strength" as Kool and van Dierendonck (2012) have mentioned. The conception of serving based supervision can easily be explained by thinking about religion for a moment, in which the thought of leading comes with the thought of serving, putting the attributes and needs of others before self. Thus the leader cares about the people working for him, commitment to service comes first and there lies the spiritual character which can be acquired through service-oriented leadership. Servant leadership is an emerging and people-oriented leadership approach which has received immense attention among leadership scholars and practitioners in recent years (Van Dierendonck & Nuijten, 2011). Servant leadership, as a concept, was first introduced by Robert Greenleaf in 1970 in his seminal article "The Servant as Leader". The core principle of servant leadership theory is that leaders with servant behaviour prioritize interests of their followers and put subordinates' needs first rather than their own (Greenleaf, 2008). Hale and Fields (2007) defined servant leadership as "an understanding and practice of leadership that places the good of those led over the self-interest of the leader, emphasizing leader behaviours that focus on follower development, and de-emphasizing glorification of the leader" (p. 397). Although the concept of servant leadership was coined decades ago; but its precise definition is still ambiguous (Afsar, Cheema, & Javed, 2018; Chughtai, 2016). Servant leadership model has been developed with different conceptualization and characterization by many prominent scholars (e.g. Chan & Mak, 2014; Ebener & O'Connell, 2010; Farling et al., 1999; Panaccio et al., 2015; Russell & Stone, 2002; Sendjaya & Sarros, 2002; Spears, 1995). However, after a detailed review of leadership literature, Van Dierendonck and Nuijten (2011) identified six main behavioural characteristics of servant leadership. According to these core characteristics, a servant leader focuses on empowerment and

development of their subordinates, provides them direction and guidance and demonstrates interpersonal acceptance, authenticity, humility and stewardship.

The executive has to be peoples' person, in order to understand his employees' mindset which could be fundamental in developing training programs covering the individual weaknesses and the successful achievement of the goals. The lack of comprehending supervision can lead to failure due to seemingly small individual weaknesses and adaptability. The leaders lacking the comforting familiarity in the workplace, only depending on strict rule books and policy procedures fail to notice that such closeness or intimacy is integral when it comes to the laying out of organizational frame of work and plans of achievement (Panaccio et al., 2015). The intimacy of the employees in between themselves in the working environment has a direct link to successfully achieving the proposed factors. The servant leader acknowledges the fact that leading becomes easier when the employees work in accord with the organizations' compass thus making the success and high individual potential inevitable (Russell & Stone, 2002). In the workplaces, the closeness and cozy-working space makes it easier for the employees to look into the gaps which need work without frustration thus smoothing the workflow in the organization. Having a deep understanding of the human nature and character, the servant leader is able to develop a teaching style that promotes and inspires self-esteem in the workers. Serving leaders is aware of the importance of the harmonious nature of the organization's goals and the needs of the employees as they both are strongly interlinked but both the variables have their own individual character needing attention (Sendjaya & Sarros, 2002). And a successful leader acknowledges the fact that teamwork always increases the affectivity and impulse are the great allies of a director.

As the word itself implies that servant leadership combines the concepts of both the leadership as well as the service, disregarding the initial conflicting conceptions related to both the terms, in which the leader tends to serve his coworkers in a selfless manner, inspiring the subordinates to reach their potential and the fruits of teamwork and team spirit become overt. Greenleaf (2008), creator of servant leadership gave forth the concept of servant leadership in "The servant as leader" thus setting base for the theory relating the concept. The founder of the concept gained perspective of his thought provoking idea through the character of Leo from "Journey to the East", a novel by Hermann Hesse. Like the character, servant leader is like a light tower, sincere in its guidance and leadership by being of reliable service to others. Greenleaf embarks on the journey of leadership through its serving perspective the way Christ leaded, promptly suggesting that serving aspect of life exists in every being but this aspect of human nature fades or gets rusty in the general societal and organizational bounds where a leader is a strict ordering head only there to instruct. And according to him, the recovery of this serving nature is the recovery of human character and moral.

Chan and Mak (2014) gave forth the ideal of the effective leadership by stating that the leadership has to be in accordance with certain corporate goals that tend to fulfill the requirements of the growth needs of the organization employees as well as the importance of self-expression and mental maturity and stability. Thus expressing the part of a serving leader is clearly to influence and inspire the creativity, growth and adaptability of the organization employees. Afsar, Cheema, and Javed (2018) view servant leadership to a democratic oriented leadership based on the concepts of human belief in moral values and dignity, and the subordinates have power over the leader and not the other way round. This more instinctively natural approach enables employees to willingly take part in the departmental tasks, in teamwork and to better promote their individual learning as well. Whetstone (2002) suggests a somewhat

similar concept where the servant leader respects the individual values and dignity of his subordinates and thus promotes their creative abilities. He describes his servant leader to be a person who promotes honest intimacy and comfort among his subordinates, the promotion of shared vision is in him, he is the person who values and respects individual employee's opinions, uses his influence to solve others' issues promoting cooperation and teamwork in the community. Barbuto and Gifford (2010) share somewhat a similar concept defining their model of the servant leader as a leader who values and respects the individualities of his employees, tries to understand their circumstances and interest, helping them to grow and adapt in the organizational work space according to their needs.

The human motivational theory of self-reliance and determination

The human motivational theory of Self-reliance and determination according to Deci and Ryan's works from 1985 and 2000 regard the aspects regarding the growth and development of human beings covering the interlinked ties of alive, developing person and the societal setups. The theory postulates that it is the individual's motivation that plays a pivotal part in behavioral development, defining various types of motivation by classifying them into a couple of classes, i.e., self-directed autonomic motivational factors and moderating motivational factors as Ryan and Deci (2000) as well as Sheldon (2008) present, both of which might not be undivided and may co-exist.

In autonomous class of motivation, the individuals quest for practices that are agreeable with their implicit existence just as many literary works like Deci and Ryan (2000), Gagné and Deci (2005), Judge et al. (2005) and Sheldon (2008). It covers further two types of motivation, the identified motivation, involving the pursuit of an action that is concordant with the individual's own goals and ethics, and the intrinsic motivation which involves the action that is constitutionally or instinctively interesting. So the PEBs of identified motivation oriented employees follow these codes of conducts due to their commitment towards the environment sustainability. Whereas those workers who are inherently inspired to perform PEBs act in order to quench their own personal interests or pleasures through these behaviors (e.g., redesigning or improving a product to make it more eco-friendly is exhilarating.

In controlled motivation, individuals carry out activities through the beliefs of obligations and sense of duty or responsibility as Deci and Ryan (2000), Gagné and Deci (2005), Judge et al. (2005) and Sheldon (2008) all observed. In extrinsic class of motivational factors in this category, external influences cannot be ignored such the thought of pay, approval, threat or punishment, and the introjected motivation revolves around the satisfaction of self-ego through practicing some activity. The externally motivated employees perform PEBs in an attempt to fulfill the demands of work (such as the demands of the management setups for the environment), to receive reward or acceptance, or to avert penalties. Employees who are introjectedly motivate perform PEBs tend to do so in order to shield themselves from negative critical reviews which would be inevitable if they are unable to practice PEBs (such as perceiving themselves as bad workers, guilt-trip).

The literary work related to the SDT as that of Gagné and Deci (2005), Judge et al. (2005), state one of the basic human nature aspect that autonomous motivation in which one is trying to satisfy oneself tend to be more facilitative towards employee performance, whereas in the controlled motivation where one is bound to perform certain tasks tends to be hindering when it comes to employee performance. Here too, the stress is on the influence of leadership in stimulating employee motivation as is the case with servant leadership supporters as Gagné and

Deci (2005), Sendjaya and Sarros (2002), as well as Otis and Pelletier (2005) made it explicit in their work. The SDT researchers particularly notify that leaders with a supportive and encouraging behavior towards the employee (like allowing workers to make independent task choices at some points, supporting enterprise, or providing reviews that are informative) promotes self-directed inspiration.

During the analysis of worker inspiration to get involved in PEBs, the primal emphasis is on the self-directed autonomic as well as the extrinsic class of controlled motivational factors. Despite the fact that most scholars having expertise in the human motivation theory of self-determination question the worth of moderating motivational factors, the present study does deems the external motivational aspects to be important as this could be common among the individual employees where the organizations imply the managing systems for the environment and honoring initiatives to inspire PEBs according to Cheema et al. (2020). A number of works simultaneously analyzed the determining character of both the self-directed autonomic and extrinsic class of controlled motivational factors with respect to various outcomes. In a study spanning over a period of nine months, Afsar and Umrani (2020) observed the influence of workers' self-directed or the controlled motivated activities on the possible outcomes like their commitment to their jobs, strain reaction like the emotional exhaustion. Emotional exhaustion refers to the strain reaction that results from overtaxing work conditions.

Servant leadership and pro-environmental behavior

Servant leadership was reported to influence employee OCBs (Williams et al., 2017; Yang et al., 2019). Therefore, we expect that servant leadership can contribute to the emergence of pro-environmental OCBs among employees. As the very nature of pro-environmental behaviors is discretionary and non-obligatory in nature, so PEBs can be considered a type of OCBs. For example, it is not explicitly stated in jobs that one has to use stairs instead of elevators to conserve energy. Moreover, it is not obligatory for employees to use double side of paper for printing and engaging in other green initiatives such as using own cup instead of disposable cups. Despite the fact that the major focal point of the present study is not the existence of a straight forward, constructive link between the servant leadership and the workers' PEBs, it is brought into some consideration in the present work. Afsar et al. (2020) and Boiral, Paillé, and Raineri (2015) state in their works that the workers' PEBs should be increased by the servant-leading managers' imagination, high anticipations and their capabilities of intensifying the workers' development. The servant leaders might be able to inspire PEBs by giving forth the sources to the workers like the work force, apparatuses, protocols and working layouts required to practice, as the servant leaders are bonded with the sustenance of the environment.

While servant leaders are a role model of empathy and other-oriented value (Schaubroeck et al., 2011; Whittington, 2017), they can serve as a source of other-oriented, community-oriented, and pro-environmental values (Afsar et al., 2018; Luu, 2019). By role modelling these values, servant leaders are likely to infuse them into the self-concept of employees, who are in turn motivated to act even beyond the minimum expectations in the interests of other stakeholders and the community such as suggesting eco-initiatives for the organization. Furthermore, servant leaders serve followers' needs and interests in terms of knowledge and skills and help them grow (Liden et al., 2008). Thus, servant leaders tend to provide employees with green-related knowledge via mentoring as well as help employees approach other sources of green-related knowledge and skills such as green training or "green champions" within as well as beyond the work group. Moreover, servant leadership can promote and fulfill self-actualization

needs among employees (van Dierendonck & Patterson, 2015). Under the supervision of servant leaders, employees are hence inclined to self-actualize by integrating and translating green-related cognitive resources and green values into novel green solutions. Other-oriented value from servant leaders may also influence employees to be open to change, thereby stimulating pro-environmental thinking, a crucial resource for pro-environmental behaviors (Tuan, 2020). Based on these arguments, it is hypothesized:

Hypothesis 1. There is a positive relationship between servant leadership and pro-environmental behavior.

Mediating role of autonomous motivation

The study postulates that the environment arising as a result of serving leadership would be linked up with an enhanced self-reliant motives behind performing PEBs. It is believed that the environmental servant leadership would facilitate autonomous motivation by allowing workers to view and go through PEBs as agreeable and self-conformable. Environmental servant leaders are very likely to enlighten the cardinal character of the matter of maintenance of the environment, perhaps also giving forth a glance of the nurturing- supporting future, assuredly taking in the demands for the accomplishment of their goals according to Afsar and Umrani (2020), giving voice to environment-linked objectives by presenting ideally thought-based accounts that underline the broader variables like the environmental wellness or the preservation of this good earth for the descending generations. These ideals presented by the directors and managers inspire the workers to not only admit to these ideals but to make them their own. Thus this internalization of the values by the workers not only enhances the importance of these broader, higher order variables but also makes the actions taken towards the environment's welfare more significant and purposeful as Cheema et al. (2020) state in their work. Eventually, the workers are motivated to think of these environment- sustainability actions as their own self-directed thoughts.

The present study proposes that the workers' self-directed motives could be linked to their PEBs in a constructive manner as self-directed motivational actions for the environment are concordant with the aims and ideals of the individuals (Sheldon, 2008). Conclusively, the workers will perform the PEBs instinctively, and free of any compulsion their actions would be seemingly self-intended and carried out willingly. The naturally agreeable or somewhat automated factor of the workers' PEBs is beneficial and constructive towards the foundation of individuals' participation, as a result of which there is a boost in the work-force, perseverance and task execution similar to the works of Bono and Judge (2003), and Judge et al. (2005). The fundamental nature of self-directed inspiration or autonomy for the practices of PEBs can also be seen in various business establishments. The PEBs of the workers are seemingly complicated that ask for creative thinking and significant invention, thoughtful adaptability and issue-resolving, for instance the introduction of environment-friendly produce and more practical sustainability systems for the environment (Gagné & Deci, 2005). This class of practices demand increased participation and continuity that are linked to with self-directed, willing motivation and no forced impulses (Pelletier, 2002). Therefore:

Hypothesis 2. Autonomous motivation mediates the relationship between servant leadership and pro-environmental behavior.

Mediating role of external motivation

Another postulate of the present study is that the environmental servant leadership might relate to the extrinsic motivational factors in a constructive manner when it comes to the practice of PEBs. Despite the reality that the published works hint at the servant-managers' stress on intrinsic satisfaction and mind set as suggested by Bono and Judge (2003) or in the work of Densten (2002), it would be worth noticing that the managers take extrinsic motivational factors into consideration as well. And actually, there are a number of learned individuals who base servant leadership foundation in the factor of rewarding extrinsically to identify the workers that satisfy the prospects (Judge, Piccolo, & Ilies, 2004). Along with this, there are few entities of serving-centered leadership's environment that increase the possibility of extrinsically motivating factors. Such as, it can be stated that the externally motivational factors could be facilitated by inspiring competition among the workers; despite the focus of this competence development being on the enhancement of the workers' potential by the servant-leading managers. And the thought of getting some extrinsic benefits could enhance the motives behind the performance of PEBs by the workers' approach of competence as they seem to be well-aware of their potential capabilities that are required for the behavioral performance necessary to acquire these extrinsic benefits. Along with this, the workers' intimacy with the environment that is provided by the serving-based leaders and managers might also be positive in enhancing their wish to acquire the managers' favors by practicing the PEBs. On the basis of the followed arguments, it could be postulated that:

Hypothesis 3. External motivation mediates the effect of servant leadership on pro-environmental behavior.

Moderating role of servant leadership

Self-determination theory induces that the extrinsic motivational factors might sabotage the practicing of PEBs, hinting at the possibility of individuals being improbable to continue with the extrinsically-motivated behavioral practices as these practices are not under the worker's possession and are dependent on the all-time existence of external influences such as the honour and penalty as is described by various works from Deci & Ryan (2002), Gagné & Deci (2005), Judge et al. (2005) as well as in the works of Sheldon (2008), additionally the extrinsic motivational variables may generate the notions of coerce that intervene the practices, especially of the complicated chores.

In distinction from others, it is proposed that the link that is found in extrinsic motivational variables and PEBs could be controlled in the environment that is generated as a result of servant-based leadership in a manner that a more constructive link is formed between extrinsic motivation and PEBs when the serving-based leadership is high, but the same link could be destructive when the serving-based leadership is lowered. The present study suggests that environment generated as a result of serving leadership modifies the influence of extrinsic motivation by making an impact of the workers' renditions of extrinsic honors and eventually, the character of their extrinsic motivation. Honors falling into the class of external motivation are mostly viewed either as moderating or as defining the competitive character of workers according to Eisenberger with colleagues (1999), as well as Gagné and Deci (2005). Seemingly controlling, the honors and benefits generate stress levels for the achievement of particular results and decrease the levels of individual motivation and interests of the workers as Deci et al. (1999), and Ryan's and Deci's 2002 work describe. On the contrary, the honors give forth the information about the competence by recognizing better execution but do not tend to moderate the actions and perceptions of the workers. So the workers see these honors grounded on the patterns that they are fashioned or distributed.

The servant managers of the environment might tend to distribute the rewards in ways that render information of competence for the workers. They are probable to demand important and ambitious PEBs from the working individuals. Workers will perceive the necessity of the practicing PEBs at higher degrees, viewing the reception of extrinsic honors for practicing PEBs as a symbolization of command on job and competence. So it can be inferred that the workers that are environmentally motivated in front of the servant leader of the environment, might look for their command on the job performance instead of bearably running after the honors or preventing the punishments as is suggested by Eisenberger and his colleagues (1999). In the light of above mentioned argues, it is thus postulated that:

Hypothesis 4. The servant leadership moderates the effect of extrinsic motivational factors on the PEBs. This impact could be constructive when servant-based leading is high in the environment and would be otherwise if the servant leadership is lowered.
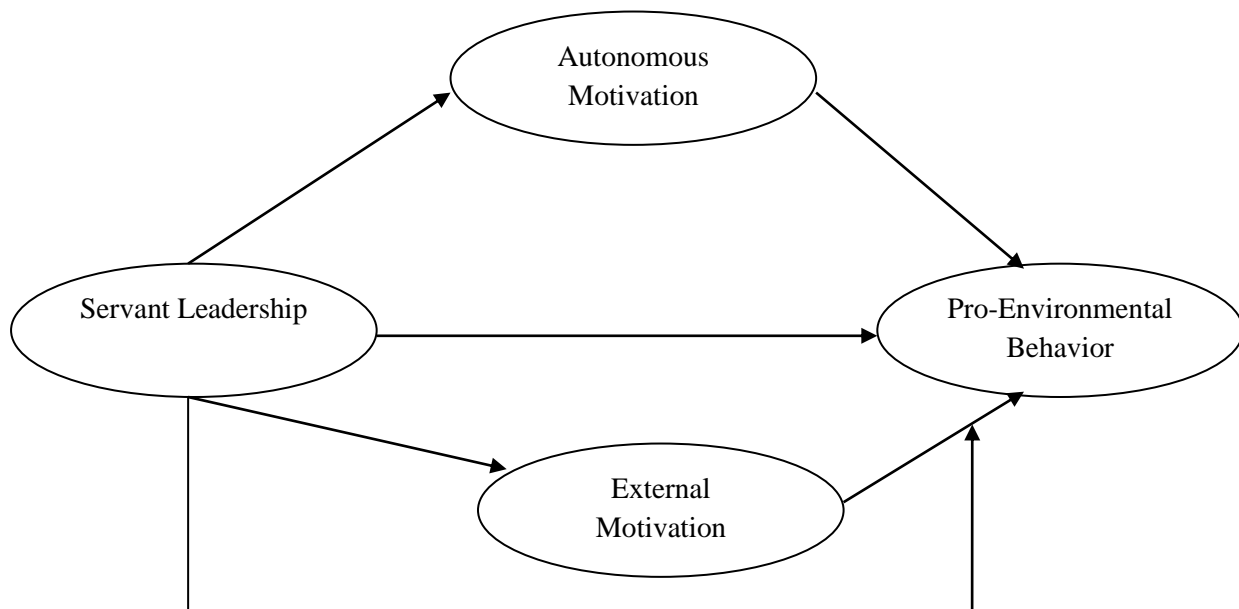

Figure 1. Conceptual Model

RESEARCH METHODE

We contacted the management of eight public hospitals in Pakistan. The purpose of the study was shared with the management and six of the hospitals agreed to provide us with the information about the nursing staff and allowed us to contact them. A questionnaire was distributed to 490 nurses working in these six hospitals in Pakistan. Out of 490, 362 nurses responded to the questionnaire. The nurses were registered nurses. Convenience sampling was used. The ethical approvals were taken from the concerned hospitals. After excluding the surveys with missing values, we got 351 complete questionnaires on which analysis was performed. The mean age of respondents was 32.93 years (SD = 7.19) and they had 6.38 years of work

experience (SD = 3.82) with 3.77 years in the current hospital (SD = 2.58). 87% of the sample consisted of females and 52% had a bachelor degree.

Measures

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*". A 9 items scale developed by Fernet et al. (2008) and Gagné et al. (2010) was used to measure employees' motivation to engage in PEBs at work. Three items measured external motivation and six items were used to measure autonomous motivation. The scale for servant leadership was adopted from Liden et al. (2008) study. Seven items were used to measure servant leadership.

Analysis

We were interested in testing the relationships at the employee level. As data were collected from multiple hospitals, to test non-independence of observations, intraclass coefficients (ICCs) were calculated for each item. ICCs ranged from 0.02 to 0.26 indicating that responses were independent of the hospitals. We followed Kenny and La Voie (1985) procedure as well, and removed variation in the data due to hospital by mean-centering each nurse's survey responses using the mean responses for his/her hospital.

Latent variable structural equation modeling (SEM) was used to test our model (Muthén & Muthén, 2007). To verify that the indicators reflected their intended latent variables, a confirmatory factor analytic or measurement model was tested. We employed sums or parcels of several survey items as indicators of some of the latent variables because using all of the items as indicators would result in an exceedingly large number of parameters relative to the sample size. Their use was appropriate in the present study because our primary focus was the links between latent variables rather than the attributes of individual survey items (Landis, Beal, & Tesluk, 2000; Little, Cunningham, Shahar, & Widaman, 2002). Hence, single factor procedure suggested by Landis et al. (2000) was used for the current study. We did not develop parcels for autonomous motivation and external motivation as these two variables had relatively few survey items (3 and 6 items, respectively).

All indicators of the latent variables were standardized prior to the analysis to facilitate interpretation of the moderating effect of servant leadership. In the next phase, the relationships between the latent variables were tested. We started with analysis of the linear relationships followed by the moderating effect of servant leadership. We used Mplus (Muthén & Muthén, 2007) to create a latent variable representing the interaction of the latent servant leadership and external motivation constructs. We tested whether the addition of this latent interaction variable to the model improved fit. The latent interaction variable approach has been shown to be effective for testing moderating relationships in structural equation models (e.g., Klein & Moosbrugger, 2000; Mathieu, Rapp, Maynard, & Mangos, 2010).

To assess fit, we relied on the chi-square statistic, standardized root mean square residual (SRMR), and the comparative fit index (CFI) (Bentler, 1990). We used the change in chi-square values to test the relative fit of the nested models. The Sobel test (Sobel, 1982) was used to assess the significance of the indirect relationships between servant leadership and PEBs.

RESULT AND DISCUSSIONS
Results

Table 1 shows the means, standard deviations, and correlations for the study variables. The fit indexes ($\chi2$[67] = 165.49, $\chi2/df$ = 2.47, CFI = .96, TLI = .94, RMSEA = .07) indicated that the model achieved an acceptable fit. All of the standardized factor loadings of the latent variables on their indicators were significant (p < .001); they ranged from .55 to .91. Servant leadership was positively relate to the employee's autonomous (B = .67, p < .001), supporting Hypothesis 1. We then tested the linear structural model, and results showed that the immediate supervisor's servant leadership was positively relate to the employee's autonomous (B = .35, p < .01) and external motivation (B = .27, p < .001). Nurses who saw their supervisors as displaying servant leadership reported higher levels of both autonomous motivation and external motivation to engage in PEBs. Autonomous motivation was positively related to employee PEBs (B = .21, p < .001); Nurses who experienced higher levels of autonomous motivation to engage in PEBs also reported that they engaged in more PEBs. External motivation was also found to significantly affect a nurse's PEBs (B = .14, p < .05). The indirect effect of servant leadership on PEBs through autonomous motivation was significant (.35 x .21 = .0735; Sobel = 3.38; SE = .06; p < .001), supporting Hypothesis 2.

Table 1. Descriptive statistics

	Variables	M (SD)	α	1	2	3	4	5	6	7	8
1	Age	32.93 (7.19)		1							
2	Gender	0.83 (.11)		-.04	1						
3	Tenure	3.77(2.58)		.23*	.01	1					
4	Education	2.19(.72)		.03	.02	.01	1				
5	Servant leadership	4.01(.41)	.82	.11*	.02	.11*	.21***	1			
6	External motivation	3.14(.22)	.85	.04	-.05	.17**	.06	.22***	1		
7	Autonomous motivation	3.91(.47)	.91	.08	.02	.11*	-.03	.35**	.17	1	
8	PEB	4.19(.51)	.89	.18***	.01	.06	.14**	.44***	.31***	.39***	1

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

The results for the linear model also revealed a large direct positive relationship between servant leadership and employee PEBs (B = .67, p < .001). Overall, the controls and latent variables accounted for 17.3% of the variance in autonomous motivation, 11.2% of the variance in external motivation, and 62.5% of the variance in PEBs. External motivation had a partially mediating effect on the relationship between servant leadership and PEB. In order to confirm the significance of the mediation effect, we implemented the bootstrap procedure developed by Preacher and Hayes (2004, 2008). Bootstrapping is a resampling method that can be used to establish a confidence interval for the indirect effect. For the indirect effect of external motivation, using 5,000 bootstrap re-samples, the indirect effect was significant (indirect effect=.162, SE=.033, z=6.025). The resulting 95% confidence intervals (CIs) for the indirect effect range from .182 to .274. The fact that the range does not include 0 supports the assertion that external motivation partially mediated the relationship between servant leadership and PEB, supporting Hypothesis 3.
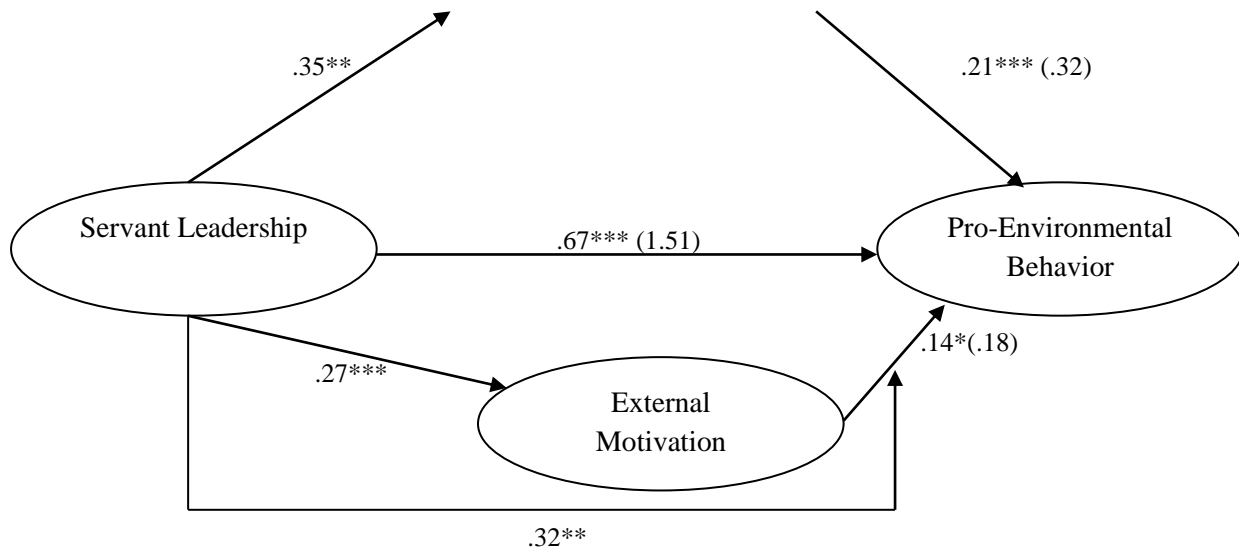
Autonomous
Motivation
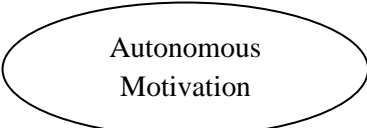
Figure 2. Structural Model

Notes: Coefficients in parentheses are for the nonlinear model, which was unstandardized. Other coefficients are standardized. Results for the controls are reported in the text. Residuals for linear model are .91 for servant leadership, .79 for autonomous motivation, .81 for external motivation, and .29 for PEBs.

We then introduced the latent servant leadership by external motivation interaction to the model and tested its significance. We found that adding the interaction to the model resulted in a significant improvement in model fit ($\Delta\lambda^2$ (1) = 21.83, p < .001). The relevant results are shown in parentheses in Figure 2; these estimates are unstandardized (standardized estimates are not available with this estimation technique). The effect of the servant leadership by external motivation interaction on PEBs was significant (b = .32, p < .01), supporting Hypothesis 4. We plotted the interactions in Figure 3, showing that when servant leadership was high, external motivation was associated with increases in nurses' PEBs. When servant leadership was low, however, external motivation was associated with declines in PEBs.
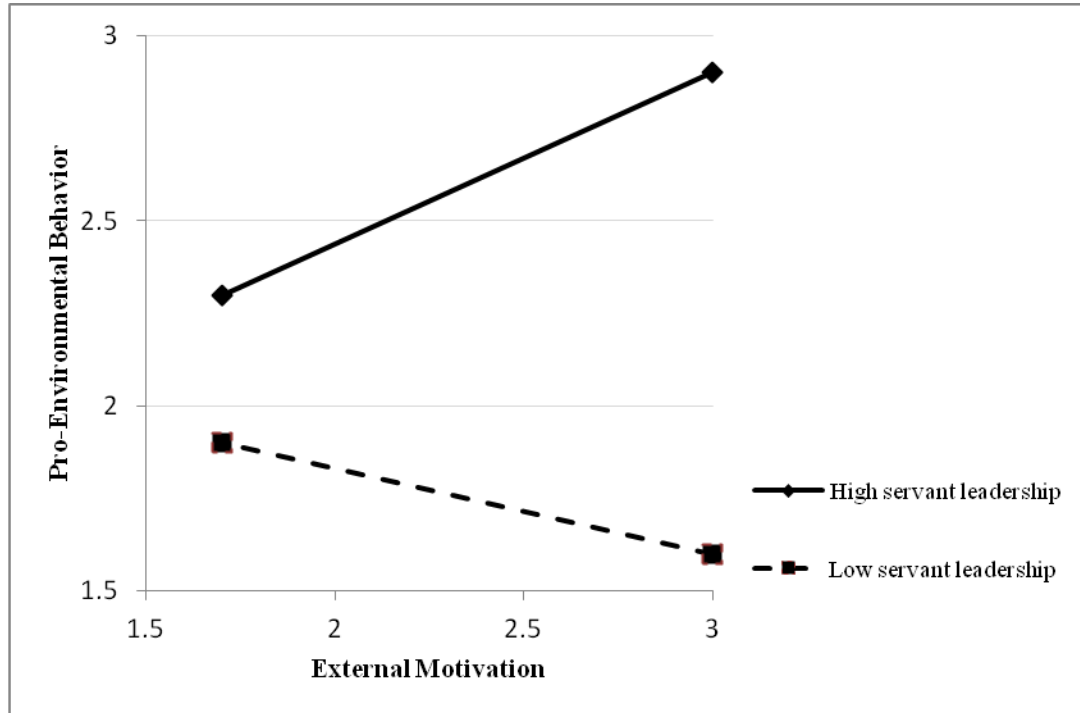
Figure 3. Interaction of servant leadership and external motivation to predict PEBs.

Discussion

Our primary contribution to the literature is our focus on the interplay of servant leadership and employee motivation in facilitating nurses' PEBs in public hospitals of Pakistan. To date, there has been little research on the determinants of nurses' PEBs, and no examination of the impact of servant leadership on employees' autonomous and external motivation to engage in PEBs. Moreover, our work is unique in testing the role of servant leadership in moderating the relationship between external motivation and PEBs; prior research has not examined this moderating effect for PEBs or for other behaviors.

The results of the study indicated that servant leadership was positively correlated with greater engagement in PEB. The findings also supported the mediating and indirect effect of autonomous and external motivation on the relationship between servant leadership and PEB. This study contributes to the literature of sustainable organizational behavior by describing workplace conditions through which PEB can be fostered. This study responds to the call of Raineri, Mejía-Morelos, Francoeur, and Paillé (2016) for the promotion of motivation 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 the importance of PEB for a sustainable future. The proposed framework is the first of its kind addressing environmental issues in healthcare settings through servant leadership. This discourse can make tangible contributions to sustainability in hospitals. The current study proposes a number of practical implications. Since the findings indicate that servant leadership had an effect on the sustainability of nurses' behavior, it is important for hospitals to foster such a climate among employees (Rego & Pina e Cunha, 2008). As the sustainable behavior of the employees at work is discretionary, servant leadership is found to be a strong predictor. Presented results suggest that employees engage in PEBs when they are motivated both externally and autonomously, and employees must enjoy

their work and find it engaging. Managers may improve autonomous motivation by providing autonomy, supportive feedback, positive interpersonal relationships at work, etc.

Limitations

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. The cross-sectional design of our study made it difficult to establish causality. We also relied on employees' self-reports, increasing the chance that the relationships between the constructs were magnified by response.

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