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Relationship between Servant Leadership and its' Role on Staff Nurses' Creativity and Sustainable Development Behavior

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Abstract
Background: In a healthcare organization, servant leadership can fulfill nurses' needs effectually through prioritizing their career growth and development which may facilitate the creation of creative behavior, motivation, innovation, and satisfaction, besides facilitating sustainable behavior of them in the workplace. **Aim:** To investigate the relationship between servant leadership and its' role on staff nurses' creativity and sustainable development behavior. **Setting:** The study was implemented at neurology, cardiology, emergency and critical, pediatric, inpatients clinics, and medical departments, and intensive care units (ICUs) of Shebin El-Kom Teaching Hospital, Menoufia Governorate. **Subjects:** A simple random sample (428) of staff nurses with a minimum of one year of experience. **Tools:** Three tools were used; Servant Leadership Assessment Instrument; Employee Creativity Scale, and Sustainable Development Behavior Scale. **Results:** Staff nurse's response to total levels of servant leadership, creativity, and sustainable development behavior were all at a moderate level. **Conclusion:** There was a highly statistically significant positive correlation between servant leadership and its' role on staff nurses' creativity and sustainable development behavior. **Recommendations:** Conducting an educational intervention programs about servant leadership to allow a healthy working environment.

Keywords: Creativity, Servant Leadership, Staff nurses & Sustainable Development Behavior.

Introduction
The philosophy of servant leadership receives continuous growing interest among clinical nursing health care leaders **(Lythreatis & Mostafa, 2020)**. The nurse as servant-leader begins with the natural feeling that the leader wants to render, subsequently the perfect choice brings one to aspire for leadership **(Qiu, et al., 2019)**. A nurse person is obviously different from one who wants to be the head of nursing only, probably due to servant leaders take care of the other peer nurses who have the highest preference needs are existence served at work time **(Bauer, et al., 2019).**

Servant leaders render with a focus on the followers, whereby the followers are the main concern **(Nathan, et al., 2018)**. The servant-leader formation is virtues that are defined as the perfect ethic goodness in a nurse as human, or the general quality of goodness, or moral excellence **(Cummings, et al., 2020)**. Nursing servant leadership focuses on the stabilization and growth of the nurses for improving their creativity and possible development conduct **(Cummings, et al., 2018)**.

The time factor about nursing servant leaders is recognized as critical due to the overwork cooperation and probity in developing their organization **(Wei, et al., 2020)**. It will take a long time but it will be strong overtime to manufacture the community improves sustainability and stabilization **(Goodwin, 2019).** It is serious in the decision-labor procedure alternately agreeable decisions by the good conception of their followers **(Godsey, et al., 2020)**. So the expansion of the community by servant leadership styles just concentrates the final goals on the growth and follower's maturity **(Faller &Break 2019)**.

Servant-leader nurses today concentrated on the growth and well-being of their staff, health organization, and communities to which they belong **(Chiniara & Bentein, 2016)**. However, classical leading generally including the collection and pursuit of the strength of the superior leader, but servant leadership is various **(Zou & Jia, 2015)**. The servant-leader cooperate by power set the needs of them first and helps others to evolve and carry out their activities by honor creative nursing work of the career as possible **(Huertas-Valdivia, et al.,2018)**.

Creativity is the descent of novel and valuable ideas, while the invention is the enforcement of the ideas **(Liu, et al., 2020).** So, functional making utilizes nursing creativity suitable to nursing practice relief in modifying the way patient care is conveyed **(Xing, et al., 2017).** The statement of creative ideas in nursing work will aid the nurse to attain self-belief and contentment. After day to day, she/he will realize that finding out innovative ideas are great usual sides of nature nursing work **(Malik, et al., 2016)**.

Nursing Creativity is viewed as a fundamental component in nursing as a calling. Particularly, at direct nursing care rehearses, an attendant who coordinates her/his inventiveness; will find that they function as self-strengthening **(Bartos 2020)**. With this strengthening, push the medical caretaker to serve the best nature of care as could be expected, and push for the development of her/his-self and association results **(Liu et al., 2020)**. Nurses who coordinate inventive original thoughts into inpatient care can lessen expenses to the medical care framework and backing the maintainable advancement conduct of nursing rehearses **(Liu, 2020)**.

Broadly, sustainability denotes the different groups of actions that intend to preserve the environment, such as using and converting natural resources in a more effective manner **(Jiang, et al., 2017)**. Sustainable development behaviors in the nursing field portray the target of nurses to consciously decrease the harmful effect of their actions on the natural work environment and achieving goals by continuous improvement of nurses' talents **(Wesselink, et al., 2015)**. Sustainable behaviors as continuing training and education programs, modern technology usage, applying international safety standards and infection control measures, etc… **(Kim, et al., 2017)**.

Successful nursing leadership highlights the crucial part of leaders for prospection their teamwork nurses' action at the workplace **(Carmeli, et al, 2017)**. The importance of servant leadership as role models is to encourage sustainable behavior among employees and nurses by converting nursesgreen routine-work behavior to more sustainability-oriented behaviors at their workplace and utilizing best nurses creative ideas for self or organization development **(Godsey et al., 2020)**.

Significance of the study

The current study concentrates on servant leadership as an approach that gives a positive value for the nursing profession, which improves nurse's creativity and sustainable development behavior outcomes in their work settings. Ultimately, this study bridges the gap that exists in the literature on a servant leadership role in creativity, and sustainable development behavior for the nursing profession. Consequently, understanding such concepts in the context of the healthcare sector may, in turn, help for establishing new links between leaders and their subordinates and improve the quality of the workplace.

Aim of the study

The current study aimed to investigate the relationship between servant leadership and its' role on staff nurses' creativity and sustainable development behavior.

Research question

What is the relationship between servant leadership and its' role on staff nurses' creativity and sustainable development behavior**?**

Subjects & Method

Research Design: - To conduct the current study a non-experimental descriptive correlational research design was recruited.

Study Setting: - The study was executed at Shebin El-Kom Teaching Hospital, Menoufia Governorate, which is officially attached to the General Organization for Teaching Hospitals and Institutes.

Subjects: Four hundred and twenty -eight (428) staff nurses with at least one year of experience were recruited by using a simple random sampling technique. They were working in the following areas: (Neurology, Cardiology, Emergency and Critical, Pediatric, Inpatients Clinics, and Medical-Surgical, departments, and Intensive Care Units (ICUs).

The total population of staff nurses at this hospital was (493); the researchers applied the current study for 428 staff nurses.

Data Collection Tools: Three tools were used to investigate three variables used in this study namely, Servant leadership assessment instrument, Employee creativity scale, and Sustainable development behavior scale. The socio-demographic data also included.

The tool I: Servant Leadership Assessment Instrument

It involved two sections as the following:

Part (I): Socio-demographic data was created by the researchers to collect the socio-demographic data of the entrant nurses (for example age, gender, housing, departments, marital status, level of education, and years of experience).

Part (II): This tool was adapted from (Robert, Bocarnea, 2014), and (Nathan et al., 2018) to assess servant leadership utilizing a level, this instrument included (41) descriptive items ranked in a five-point Likert scale that ranged from '1' response that represent (Strongly Disagree) to '5' that signifies (Strongly Agree). This scale measured staff nurses' response to their supervisor's servant leadership style/ approach in their organization and estimated the degree to which staff nurses see their chief's worker administration style/approach.

Scoring of Servant leadership assessment instrument:

The servant leadership instrument total score was extended from (41 – 205), which considered the summation of all staff nurses' responses on the present scale. While scores from (41 – 81) degree reflected the "low Servant Leadership". Whereas, scores ranged from (82- 122) denote "moderate

Servant Leadership", as well as scores extended from (123-205) represent "high Servant Leadership".

Tool II: Employee Creativity Scale.

This scale was adapted from **(Mateus, et al., 2019) & (Malik et al., 2016)** and used to assess staff nurses' creativity levels. This variable was measured by 33 question items. Every item was assessed on a five-point Likert scale where (1) reflect strongly disagree to (5) rate that mean strongly agree.

Scoring for employee creativity scale:

The total score of the creativity scale was ranged from (33 – 165), that represent the sum of all nurses' responses on this scale. Nurses Response that considered "low creativity level", its scores graded from (33-65) points. While, "moderate creativity level" response figured out by scores ranged from (66- 98).On the other hand, "high creativity level" response represented by scores from (99-165).

Tool III: Sustainable Development Behavior scale

Sustainable development behavior was measured by 21 items scale adapted from **(Temminck, et al., 2015) & (Dumitru, et al., 2015).** This scale was used to assess staff nurses' response levels about sustainable development behavior at their workplace. All the answers were allocated on a 5-point scale that ranging from (1) response that mean "not at all" to (5) "answer which represents a great extent".

Scoring for sustainable development behavior scale:

The total score of sustainable development behavior was ranged from (21 – 105), which is the sum of all staff nurses' responses in this scale; (21 – 41) pointed for "low sustainable behavior level", (42- 62) denoted "moderate sustainable behavior level", and (63-105) considered "high sustainable behavior level".

Content Validity

A jury composed of five nursing fields' experts to assess the study of the three tools to examine validity of tools for relevance and appropriateness. The experts were; 2 professors, 3 assistant professors of nursing services administration department, all of them are from the Faculty of Nursing, Tanta University. The experts' responses were represented in three points rating scale ranging from (3-1); 3=strongly relevant, 2= relevant, and 1= not relevant. The modifications are done accordingly. The values of content validity for tool I, tool II, tool III (86.49%, 80.12%, and 89.34%) respectively.

Reliability analysis

All three tools (I, II, and III) were tested for reliability using the Cronbach Alpha Coefficient factor test to determine the internal consistency of each scale and all were satisfactory for the Servant leadership assessment instrument, Employee creativity scale, and Sustainable development behavior scale respectively.

Table (1): The reliability coefficient was computed by the Cronbach alpha reliability test. The three variable instruments of current study were reliable for being used as illustrated in

Table (1): Cronbach Alpha Coefficients for Study Variables

Study Variables	No of Items	Cronbach's Alpha
Servant Leadership	41	.852
Creativity	33	.855
Sustainable Development Behavior	21	.788
Total	95	.900

Method of Data Collection

An assent to execute the study was attained from both medical and nursing executives of Shebin El-Kom Teaching Hospital, Menoufia Governorate. Tools (I, II, and III) of the current study were translated into the Arabic language.

Ethical Considerations

Verbal approval was obtained from all entrant nurses before assembling any data. The data was gathering by the researchers after portraying the study aim to all participants. Anonymity and exclusiveness of participants' information were assured. Elective participation in the study was guaranteed to all participants as well. All the nursing entrant personnel were informed about their rights to retreat from the yielded study at any period without giving any reason of obligation.

Pilot Study

A pilot study was implemented on 10% of nurses (n=43) excluded from the study sample and necessary modification and clarification of some questions were done.

Data Collection Phase

The researchers collected data of (the tool I, II, and III) from studied nurses by creating special Google forms link and send this link to each nurse, then statistically analysis was done for all answers submission of studied nurses. The data assemblage stage of the study started from the first of June 2020 until the end of August 2020.

Data Analysis

The analysis was accomplished by using the Statistical Package for the Social Sciences (SPSS V. 23). To describe and summarize the data, descriptive statistics (i.e., means and standard deviations, chi-square) were applied. Inferential statistics (including correlation) were also used to measure the degree of the relationship between variables. A p-value of $P < 0.005$ was considered significant (Pallant, 2019).

Results:

Table (2): Socio-demographic characteristics of participant nurses

Characteristics items (n=428)	No.	%
Age		
22- 30 y	53	12.4
31-40 y	157	36.7
41- 50 y	82	19.2
≥ 51 y	136	31.8
Gender		
Female	355	82.9%
Male	73	17.1 %
Housing		
Urban	100	23.4
Countryside	328	76.6
Department		
Neurology	38	8.9
Cardiology	27	6.3
Medical-surgical	62	14.5
Pediatric	54	12.6
Emergency and critical	101	23.6
Inpatients clinics	56	13.1
Others (ICUs)	90	21.0
Marital Status		
Single	64	15.0
Married	344	80.4
Divorced	11	2.6
Widow	9	2.1
Level of Education		
Nursing High School-Diplom	15	3.5
Nursing Technical Institute	190	44.4
Bachelor degree	131	30.6
Postgraduate degree	92	21.5
Years of experiences		
1-5 years	208	48.6
6-10 years	114	26.6
More than 10 years	106	24.8

Table (3): Staff nurses' response of total servant leadership, creativity, and sustainable development behavior' levels

Variables items	Total levels of staff nurses (n=428)						Mean± SD	Chi-square	p-value
	Low		Moderate		High				
	No.	%	No.	%	No.	%			
Servant Leadership	179	41.8	232	54.2	17	4.0	3.03±.52	175.883	.000**
Nurses' Creativity	170	39.7	249	58.2	9	2.1	2.83±.58	179.780	.000**
Nurses' Sustainable development Behavior	162	37.9	245	57.2	21	4.9	3.14±.48	209.724	.000**

*** High Significant at P < 0.005/ mean score ; Low: 1.00 to 2.33, Average (Moderate): 2.34 to 3.66, High: 3.67 to 5.00*

Table (4): Staff nurses' response regarding servant leadership levels

Items	Servant leadership levels (n=428)						Mean± SD	Chi-Square	P-value
	Low		Moderate		High				
	No.	%	No.	%	No.	%			
My leader empowers me with opportunities so that I develop my skills	84	19.6	101	23.6	243	56.8	3.53±1.13	175.883	.000**
My leader turns over some control to me so that I may accept more responsibility	92	21.5	122	28.5	214	50.0	3.39±1.13		
My leader entrusts me to make decisions	85	19.9	131	30.6	212	49.5	3.33±1.13		
My leader gives me the authority I need to do my job	98	22.9	200	46.7	130	30.4	3.07±.97		
My leader lets me make decisions with increasing responsibility	122	28.5	111	25.9	195	45.6	3.24±1.24		
My leader has sought my vision regarding the organization's vision	122	28.5	99	23.1	207	48.4	3.32±1.15		
My leader has shown that he or she wants to include employees' vision into the organization' goals and objectives	121	28.3	78	18.2	229	53.5	3.45±1.39		
My leader seeks my commitment concerning the shared vision of our organization	76	17.8	160	37.4	192	44.9	3.35±1.06		
My leader has asked me what I think the future direction of our company should be	115	26.9	128	29.9	185	43.2	3.13±1.20		
My leader and I have written a clear and concise vision statement for our organization	107	25.0	90	21	231	54.0	3.49±1.23		
My leader has made personal sacrifices for me	89	20.8	91	21.3	248	57.9	3.51±1.26		
My leader has endured hardships, e.g. political, "turf wars," etc. to defend me	130	30.4	116	27.1	182	42.5	3.13±1.16		
My leader knows I am above corruption	95	22.2	146	34.1	187	43.7	3.25±1.10		
My leader trusts me to keep a secret	82	19.2	111	25.9	235	54.9	3.54±1.17		
The level of trust my leader places in me increases my commitment to the organization	64	15.0	173	40.4	191	44.6	3.39±1.06		
My leader shows trustworthiness in me by being open to receiving input from me	88	20.6	110	25.7	230	53.7	3.48±1.16		
My leader communicates trust to me	114	26.6	119	27.8	195	45.6	3.31±1.16		
My leader does not overestimate her or his merits accomplishments	104	24.3	99	23.1	225	52.6	3.28±1.21		
My leader is not interested in self-glorification	101	23.6	120	28	207	48.4	3.32±1.19		
My leader's demeanor is one of humility.	149	34.8	85	19.9	194	45.3	3.08±1.33		
My leader has often assisted me with my work/career and did not look for	137	32.0	115	26.9	176	41.1	3.03±1.15		

Items	Servant leadership levels (n=428)						Mean± SD	Chi-Square	P-value
	Low		Moderate		High				
	No.	%	No.	%	No.	%			
acknowledgement from higher up.									
My leader acted with integrity and honesty and gives me the opportunity to challenge their decisions.	119	27.8	132	30.8	177	41.4	3.13±1.19		
My leader constantly listened to my opinions, and did not take one employees' side over another.	161	37.6	131	30.6	136	31.8	2.86±1.16		
My leader openly discussed the ethical dilemma put in front of me, emphasizing that it is more important to do the right thing than looking good in-front of my workmates.	177	41.4	126	29.4	125	29.2	2.80±1.11		
My leader took time to explain how my role is important within the organization and how my tasks will contribute to the overall mission of the team.	201	47.0	114	26.6	113	26.4	2.65±1.22		
My leader has been a mentor to me, helping me through a variety of different professional and personal situations.	193	45.1	111	25.9	124	29.0	2.68±1.24		
My leader inspires team spirit, communicate enthusiasm and confidence.	171	40.0	114	26.6	143	33.4	2.83±1.24		
My leader identify talented people and give them opportunities to grow and shine	133	31.1	140	32.7	155	36.2	3.05±1.21		
My leader takes proactive actions rather than waiting for events to happen	174	40.7	114	26.6	140	32.7	2.88±1.19		
My leader consistently encourages others to take initiative.	195	45.6	118	27.6	115	26.9	2.67±1.22		
My leader has willing to make personal sacrifices in serving others	171	40.0	114	26.6	143	33.4	2.90±1.27		
My leader always places team success above personal success	134	31.3	115	26.9	179	41.8	3.13±1.26		
My leader consistently appreciate, recognize, and encourage the work of others	121	28.3	116	27.1	191	44.6	3.19±1.25		
My leader when making decisions rely on persuasion to convince others in order to build consensus within the group	181	42.3	122	28.5	125	29.2	2.82±1.53		
My leader brings visions to reality by looking at a problem or the organization from a conceptualizing perspective (form an idea or picture)	169	39.5	136	31.8	123	28.7	2.83±1.18		
My leader is deeply committed to the personal, professional, and spiritual	156	36.4	125	29.2	147	34.3	2.94±1.21		

Items	Servant leadership levels (n=428)						Mean± SD	Chi-Square	P-value
	Low		Moderate		High				
	No.	%	No.	%	No.	%			
growth of each individual within the organization									
My leader always keep his\her promises and commitments to others	181	42.3	132	30.8	115	26.9	2.76±1.23		
My leader promotes tolerance, kindness, and honesty in the work place	161	37.6	139	32.5	128	29.9	2.87±1.11		
My leader creates a climate of trust and openness to facilitate participation in decision making	175	40.9	121	28.3	132	30.8	2.85±1.18		
My leader invests considerable time and energy equipping others.	171	40.0	127	29.7	130	30.4	2.80±1.25		
My leader contributes to my personal growth.	144	33.6	134	31.3	150	35.0	3.00±1.22		

**High Significant at P < 0.005

Table (5): Staff nurses' response regarding creativity levels

Items	Creativity levels (n=428)						Mean± SD	Chi-Square	P-value
	Low		Moderate		High				
	No.	%	No.	%	No.	%			
I always suggest new ways to achieve cooperative goals	93	21.7	141	32.9	194	45.3	3.29±1.130		
I always propose new ways to get work done	133	31.1	137	32	158	36.9	3.03±1.271		
I always try to find new ways to get work done	122	28.5	148	34.6	158	36.9	3.16 ±1.175		
I always suggest new ways to improve service quality	93	21.7	91	21.3	244	57.0	3.46 ±1.205		
I always try to find sources of new creative ideas	118	27.6	112	26.2	198	46.3	3.16 ±1.228		
I am not afraid to take risks	130	30.4	125	29.2	173	40.4	3.15 ±1.173		
I always fight for ideas to the leadership	108	25.2	139	32.5	181	42.3	3.13 ±1.206		.000 **
I am always creative in completing work when there is an opportunity	86	20.1	187	43.7	155	36.2	3.18 ±1.020		
I always make a timetable for implementing basic work to implement new ideas	79	18.5	103	24.1	246	57.5	3.59 ±1.169		
I often have innovative ideas	91	21.3	117	27.3	220	51.4	3.45 ±1.163		
I always get a solution to a work problem	80	18.7	121	28.3	227	53.0	3.52 ±1.098	179.780	
I always have a new approach to solving problems	79	18.5	150	35	199	46.5	3.37 ±1.114		
I always recommend using new ways to get work done	123	28.7	143	33.4	162	37.9	3.11 ±1.126		
I am ready facing challenges at work	93	21.7	141	32.9	194	45.3	3.29 ±1.130		

Items	Creativity levels (n=428)						Mean± SD	Chi-Square	P-value
	Low		Moderate		High				
	No.	%	No.	%	No.	%			
I am very astute person (I have the ability to see how to take advantage of a certain situation	133	31.1	137	32	158	36.9	3.03 ±1.271		
I believe that my personality traits (self-esteem, respect for others' opinion, extrovert / introvert, etc.) make me more creative in the workplace	122	28.5	148	34.6	158	36.9	3.16 ±1.175		
I am interested in my work and I find it rewarding / fulfilling (I have a personal interest and goals in terms of what I do for my work)	93	21.7	91	21.3	244	57.0	3.46 ±1.205		
My previous experience makes me more creative in the workplace	118	27.6	112	26.2	198	46.3	3.16 ±1.228		
The opinion of other work colleagues has a positive effect on my individual creativity	130	30.4	125	29.2	173	40.4	3.15 ±1.173		
My personal contacts enhance my level of creativity in the workplace	108	25.2	139	32.5	181	42.3	3.13 ±1.206		
I feel proud and committed in working with my organization	86	20.1	187	43.7	155	36.2	3.18 ±1.020		
I am satisfied with my salary/ remuneration package at work	79	18.5	103	24.1	246	57.5	3.59 ±1.169		
Time pressure inhibits my individual creativity at work	91	21.3	117	27.3	220	51.4	3.45 ±1.163		
I don't find problems and issues distracting. They don't cause me to lose focus on my real work.	80	18.7	121	28.3	227	53.0	3.52 ±1.098		
I see problems, complaints, and bottlenecks as opportunities rather than as issues	79	18.5	150	35	199	46.5	3.37 ±1.114		
Everyday routine doesn't impedes on my creativity, I avoid following procedures strictly by the rules	123	28.7	143	33.4	162	37.9	3.11 ±1.126		
I feel confident that I can perform creatively on many different tasks at work	199	46.5	109	25.5	120	28.0	2.65 ±1.260		
My leader serves as a creative model (tries out new ideas and approaches to problems)	215	50.2	89	20.8	124	29.0	2.59 ±1.353		
My leader behaves in a way that is inconsistent with my expectations	168	39.3	137	32	123	28.7	2.76 ±1.246		
My leader inspires enthusiasm about what needs to be accomplished	179	41.8	148	34.6	101	23.6	2.67 ±1.142		

Items	Creativity levels (n=428)						Mean± SD	Chi-Square	P-value
	Low		Moderate		High				
	No.	%	No.	%	No.	%			
My leader supports employees' training in creativity and innovation	166	38.8	127	29.7	135	31.5	2.80 ±1.225		
My leader doesn't have unrealistically high expectations towards its employees	145	33.9	131	30.6	152	35.5	3.05 ±1.169		
My leader recognizes contributions and accomplishments	192	44.9	98	22.9	138	32.2	2.75 ±1.261		

Table (6): Staff nurses' response regarding sustainable development behavior levels

Items	Sustainable development behavior levels (n=428)						Mean± SD	Chi-Square	P-value
	Low		Moderate		High				
	No.	%	No.	%	No.	%			
I make environmental suggestions to improve work procedures	104	24.3	100	23.4	224	52.3	3.39 ±1.189		
I make suggestions to improve the organization's environmental performance	122	28.5	106	24.8	200	46.7	3.26 ±1.298		
I try to draw management's attention to potentially environmentally unfriendly activities	144	33.6	81	18.9	203	47.4	3.07 ±1.380		
I try to make innovative environmental suggestions to improve the organization	107	25	227	53.0	94	22.0	2.43 ±1.278		
I inform management of potentially environmentally irresponsible policies and practices	104	24.3	236	55.1	88	20.6	2.37 ±1.252		
I am willing to speak up when policy or rules do not contribute to the achievement of the organization's environmental goals	102	23.8	118	27.6	208	48.6	3.39 ±1.211	**209.724**	**.000 ****
I suggest revisions to work practices to achieve the organization's environmental objectives	119	27.8	100	23.4	209	48.8	3.14 ±1.244		
I can contribute to the reduction of environmental problems by behaving pro-environmentally at work	174	40.7	147	34.3	107	25.0	2.72 ±1.101		
Work environment quality will enhance when I act pro-environmentally at work.	179	41.8	141	32.9	108	25.2	2.80 ±1.111		
I can make positive contribution to work environment.	203	47.4	118	27.6	107	25.0	2.68 ±1.175		
I feel proud when I act pro-environmentally at work.	202	47.2	118	27.6	108	25.2	2.67 ±1.211		
My Organization successes are my successes.	167	39.0	83	19.4	178	41.6	3.02 ±1.375		
Recycling at work spilling over into energy saving at work.(eg. Paper	166	38.8	134	31.3	128	29.9	2.86 ±1.147		

Items	Sustainable development behavior levels (n=428)						Mean± SD	Chi-Square	P-value
	Low		Moderate		High				
	No.	%	No.	%	No.	%			
work).									
Recycling at work leading to more sustainable mobility behavior.	161	37.6	122	28.5	145	33.9	2.92 ±1.238		
I encourage others to act pro-environmentally at workplace.	139	32.5	139	32.5	150	35.0	2.97 ±1.109		
My organization creates ´virtuous´ loops of social influence that would also contribute to the creation of a pro-environmental culture.	168	39.3	126	29.4	134	31.3	2.88 ±1.202		
My organization' interventions promote pro-environmental behavior at workplace.	172	40.2	111	25.9	145	33.9	2.89 ±1.173		
My organization is committed with sustainable values and practices.	180	42.1	135	31.5	113	26.4	2.76 ±1.178		
I am committed with sustainable values and practices, as well as the perceptions of others´ behaviors and expectations, especially leaders	191	44.6	85	19.9	152	35.5	2.75 ±1.394		
My organization' descriptive norms contribute to an increased sense of outcome efficacy.	206	48.1	104	24.3	118	27.6	2.58 ±1.297		
My organization provide models for acquiring new behaviors which might enhance the feeling that one´ own contribution is worthwhile	186	43.5	134	31.3	108	25.2	2.69 ±1.215		

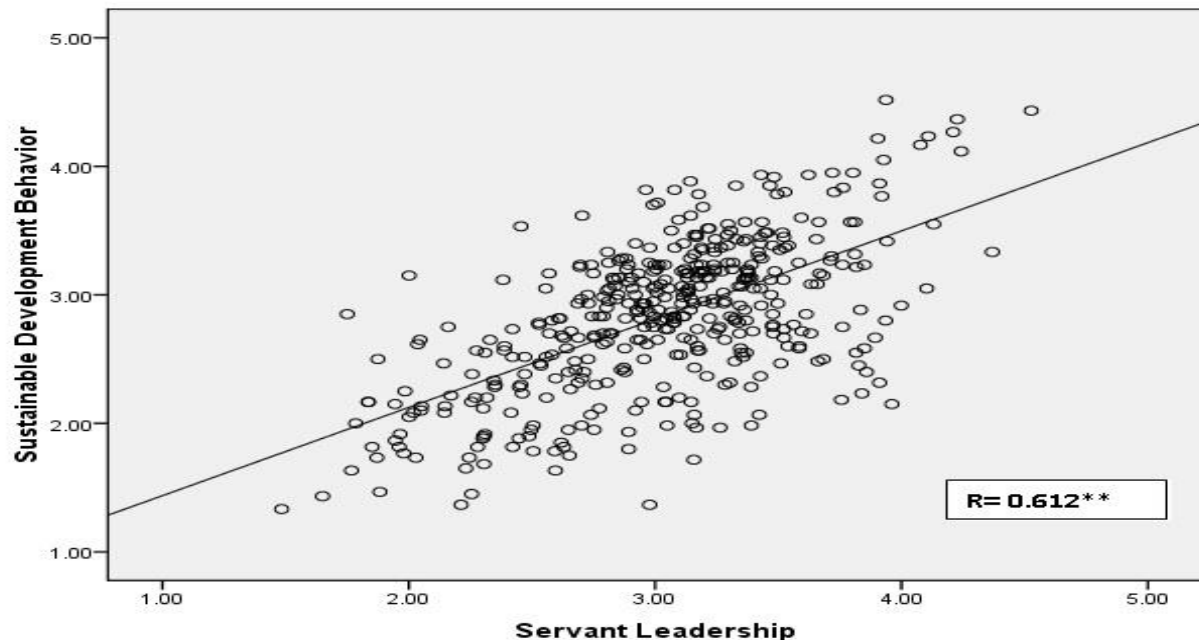***High Significant at P < 0.005*
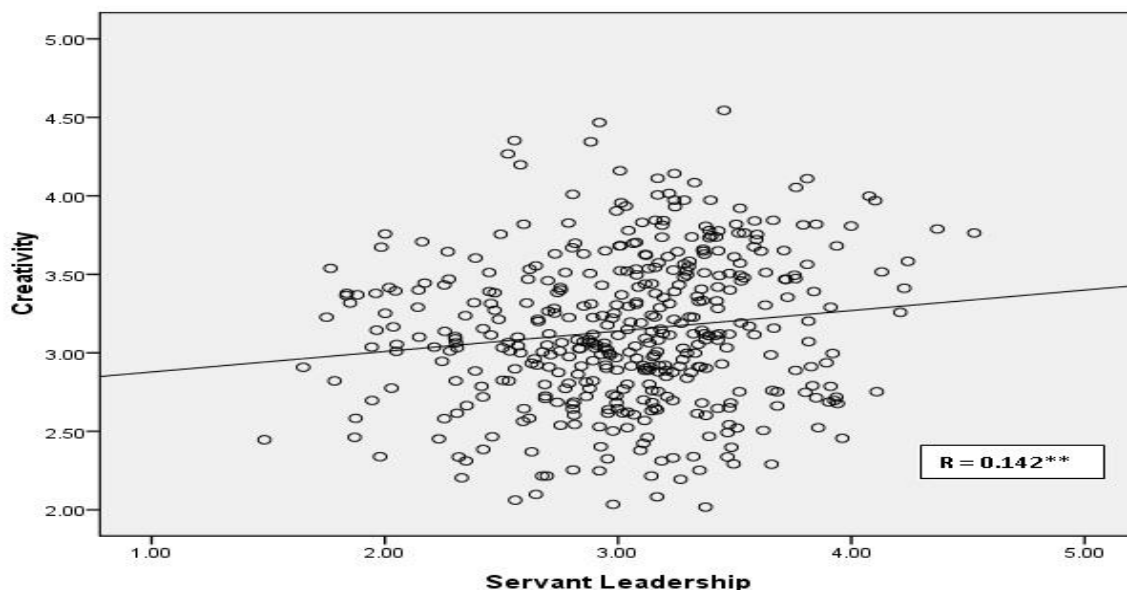
Figure (1): Correlation between servant leadership and creativity among staff nurses

Figure (2): Correlation between servant leadership and sustainable development behavior among staff nurses

Table (2): Reveals the socio-demographic characteristics of entrant nurses. The table donated that the 82.9% of participant nurses are female, 80.4% are married and 44.4% of them have nursing technical institute and (48.6%) of them have years of experience ranged from (1 - 5 years). Also, (36.7%) of participant nurses' age are from (31-40) years.

Table (3): Illustrates staff nurses' response of total levels of servant leadership, creativity, and sustainable development behavior. All are at a moderate level (3.03, SD=.52), (2.83, SD= .58), and (3.14, SD= .48) respectively and there are slight differences between the mean scores of all three variables.

Table (4): Indicates staff nurses response regarding servant leadership levels. A statistical significant difference is found regarding staff nurses' response to all items of servant leadership levels (p<0.0001). The highest percent above fifty percent (57.9% and 54.9%) of staff nurses reports that their leader has made the personal sacrifices for them and trusts them to keep a secret respectively.

Table (5): Indicates staff nurses' response regarding creativity levels. A significant difference is found regarding staff nurses' response to all items of creativity levels (p<0.0001). The highest percent (57.5%) of staff nurses always make a timetable for implementing basic work to implement new ideas and are satisfied with their salary/ remuneration package at work. Also, (57%) of nurses always suggest new ways to improve service quality and are

interested in their work and find it rewarding / fulfilling.

Table (6): Indicates staff nurses 'response regarding sustainable behavior levels. A statistically significant difference is found regarding staff nurses' response to all items of sustainable development behavior levels (p<0.0001). The highest percent (55.1%, 53%, and 52.3%) of nurses inform management of potentially environmentally irresponsible policies and practices, nurses try to make innovative environmental suggestions to improve the organization, and nurses make environmental suggestions to improve work procedures respectively.

Figure (1): Shows correlation between servant leadership and creativity among staff nurses. It indicates a highly significant positive correlation between servant leadership and creativity among staff nurses (r = 0.142).

Figure (2): Illustrates correlation between servant leadership and sustainable development behavior among staff nurses. It indicates a highly significant positive correlation between servant leadership and sustainable development behavior among staff nurses (r = 0.612).

Discussion

Servant leadership is unique of the greatest useful leadership approaches that work across healthcare settings. So, today's to lead healthcare nursing staff requires trend leadership approaches as servant

leadership and respecting positive value for nursing profession that enable enthuse all levels of staff nurses to adopt an up-dated era of entanglement and dependability of health care environment shift for better whilst also struggling for superiority in the nursing creativity and continues sustainability.

The current results assured that there were highly statistically significant positive correlations between servant leadership and staff nurses' creativity and sustainable development behavior. These positive correlations meant that highly utilizing and applying of servant leadership approach led to a high level of nurses' creativity and continuous sustainability behavior, and the opposite ones were correct.

Cummings et al., (2020) study about the essentials of nursing leadership which supported the study findings and confirmed that effective strong servant leadership is fundamental to several of the negative aspects in the organizational life and elevates a high artistic scale in nursing work environments to facilitate the sustainable development behavior strength. Servant leadership is a service-oriented approach that positively correlates with values to develop nurses and offers a collaborative framework team for increasing creativity and productive sustainable behavior in nursing communities.

While the current study findings revealed that the majority of staff nurses had moderate and low levels for using their leaders' servant leadership approach. These may be due to centralized decision making and authoritarian leadership style that ordinarily did not involve nurses to share in quality or crisis teams for example. While staff nurses seek to achieve organizational goals and communicate with trust with leaders and their leaders sometimes empower and entrust them to share hospital vision and goals, but not all times.

Also, these findings due to over forty percent of staff nurses didn't agree that their leader takes time to explain how her/his role is important within the organization and how their leader tasks will contribute to the overall mission of the team. In addition, they didn't agree that their leader neither had been a mentor to them, nor helping them through a variety of different professional and personal situations. Beside the staff nurses believed that their leader may not takes proactive actions at right time rather than waiting for events to happen which consistently depresses others to take initiative decisions and inhibits others to use open discussion if the ethical dilemma put in front of them, but their leader emphasizing to do the right thing than looking good in-front of their workmates.

Absolutely, the servant leadership approach can direct visionary nursing pioneers and nurses attendants to serve their local area, persistent

consideration, and connections based on regard and empathy. Thus, the nurse leader's principal job is to help staff bearing and vision keep up and solidarity regular motivation behind her/his group. This servant approach allows advances smart understanding and openings for helpful input, group building, and compromise which set up medical caretakers' sympathetic cooperative nonstop maintainability that can be viewed as in the positive changes of the attendants' group's profitability and creativity.

Conversely, **Mustard (2019)** study about servant leadership in the health administration didn't support the current study results and assured that staff perceptions about their managers and leaders servant style were at a higher level with a highly significant positive impact on employee job satisfaction and servant leader index indicated their manager's ability to accomplish organizational goals through the empowerment of others also were at a high level.

While, **Murphy, et al., (2020)** study about leadership baseline: assessing servant leadership and leadership self-efficacy, supported current study results and stated that servant leader's inspiration level was moderately served all team nurses, the patients, and the community. Also, it confirmed that by emulating the principles of servant leadership, patients and families, along with interdisciplinary team members, take cues from observing how this pattern boosts outcomes and transforms the cooperative environment and future generations' creativity.

While, regarding staff nurses' creativity, the current study results revealed that majority of staff nurses had moderate and low levels for total nursing creativity respectively. These findings may be due to more work pressure especially during the coronavirus era, which sometimes made interruption for staff nurses attention during the work time. Moreover, staff nurses sometimes suggested new ways to achieve cooperative goals through done work perfectly and completely. Plus, their leaders sometimes allowed their staff nurses to find sources of new creative ideas to improve service quality for example effective utilize of supplies and equipment during work to avoid its shortage.

Even their leaders didn't let their nurses' team take risks for applying new creative ideas all time when there is an opportunity for it because those leaders did not serve as a creative model in the perspective of half of the staff nurses. But they let their staff have a new approach to solving problems and recommendations for utilized different pathways to get work done correctly.

Moreover, most of the staff nurses believed that their previous experiences and their personality traits as self-esteem and respect for others' opinion made them creative in the workplace and interested in

fulfilling work. Plus, most of them accepted the idea of 'the opinion of other work colleagues had a positive effect on their creativity' but everyday routine or time pressure and workload could inhibit their individual creativity at work. Actually, due to health care complexity and nursing escalates; nurses were requested to propose innovative solutions in nursing care practices. Also, staff nurses were dealing with patients of different ages and sectors, dissimilar health conditions, and circumstances which motivate nursing creativity as an essential division in nursing responsibilities and tasks.

Malik et al., (2016) study in the line with current results and confirmed that effective authentic leadership is positively related to the creativity of nursing staff. While, the use of information technology performs as a moderator between knowledge-sharing behavior and nurses' creativity. Also, **Xing et al., (2017)** study about developing and measuring creativity in nursing, supported the study findings and stated that plentiful issues influencing nurses' creativity may be applied to accomplish positive outcomes through efforts at artistic expressions, self-directed learning, and teamwork for monitoring creativity development amongst nurses.

Bartos (2020) supported the current study and assumed that nursing creativity greatly is aimed to improve patients' co-operation and satisfaction, especially where the nurse deal with uncooperative ones. Technological advances in nursing have created raise in the complication of delivering good nursing care, which is a challenge to the healthcare system. Improving interdisciplinary teamwork among all healthcare staff is one approach to meeting these modern challenges.

Moreover, the current study assured that the majority of staff nurses had moderate and low levels respectively regard nurses' sustainable development behavior. These results may be due to over forty percent of them had a nursing technical institute degree and near to half of them had 1-5 years of experience led to a decrease continuous creative or innovative ideas for sustainable behaviors at their category levels. Plus, different work specialty departments at these teaching hospitals created different nurses' levels to maintain sustainability.

But, over half of them had bachelor and postgraduate degree respectively and most of them were at youth age which let them had the high either moderate ability for making some effective work suggestions during they applied nursing clinical procedures which improve continuous sustainable staff development performance and potential environmental unfriendly innovative nursing activities such as revision nursing practices to make sure achieving the organization's objectives.

While about half of staff nurses had the low ability for making innovative suggestions for improving organization management policies even they had the low ability for informing their leaders about potential nursing environmental irresponsible policies and practices as to how dealing with verbal or physical work harassment if occur. Also, over forty percent of staff nurses didn't make positive contribution to work environment and didn't feel proud when they act pro-environmentally at their work which reflected in organization' interventions depressed pro-environmental behavior and decrease committed with sustainable values and practices, as well as the perceptions of others´ behaviors and expectations, especially leaders decreased their contribution sense of outcome efficacy.

Temminck et al., (2015) & Al-Atwi, et al., (2019) studies were in the line with the current findings and assured that successful organization development measured by the ability of their leaders and nursing staff for setting sustainable planning for quality assurance, staff involvement, and effective leadership strategies which reinforce sustain planned for developmental behavior change.

The findings of current results assured that healthcare managers and nurses' leaders have to understand the importance of creating and sharing knowledge among their healthcare providers. Also, it attracts attention to the necessity for hospital administrators/ leaders to foster an applicable infrastructure for information technology programs for efficiently managing the knowledge pool and translating it to creative innovative ideas within the organization. Additionally, it highlights the significance of effective servant leadership style, in positively influencing staff nurses' creativity and sustainable development behavior.

Certainly, nursing work can be improved through inter-professional nursing education programs about the importance of applying servant leadership and enhancing value of nursing job for empowering nurses' creativity and sustainable development behaviors. These programs adopt collaboration and creativity in provisional organizations, for instance; interactive behaviors and team creativity. Besides the useful value of this servant leadership approach lies in its potential use in organizational contexts to produce innovative worker-led sustainability proposals for transforming both production processes and everyday practices in the workplace.

Conclusion:

A highly significant positive correlation between servant leadership and its' role on staff nurses creativity, and sustainable development behavior. Also, a statistically significant difference was found

regarding staff nurses' responses of all items of servant leadership, creativity, and sustainable development behavior' levels.

Recommendation:

- Further researches should be applied for conducting educational programs about servant leadership to allow a healthy working environment that builds an empowering work culture among nurses.
- Health care organizations should adopt a servant - leadership philosophy and establish servant leadership requirements for nurse managers to develop nurse leaders with a key "servant" orientation and mindset (e.g., emphasizing concerns for followers and prioritizing creativity and sustainability among nurses).
- Nurse managers should adopt servant leadership, and organizations should also design work structures in the workplace that reinforce the advantages of servant leadership and its effect on nurses' creativity and sustainable development behavior.
- Deliver support for management offering health-care professionals sufficient opportunities to learn new skills and management learning from criticism and admitting mistakes.
- Encouraging health-care professionals to use their talents, come up with new ideas, and solve problems.
- Promote creative thinking in nursing through designing training courses that allow them to learn actively and convert thoughts into actions.
- Building confidence and group work culture that plays significant roles in helping nurses to express themselves and think creatively.
- Providing a nurturing environment that enhances nurses' ability to function independently and a willingness to take risks that enhance a nurses' creative potential.
- Nursing educators should teach students about sustainability and the impact of climate change on the healthcare sector.
- Health care organizations should build a sustainability development work environment to promote nurses' vitality in contributing to creative outcomes.

Acknowledgment

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