Collective Self-Esteem, Attitudes toward Collaboration, and Collaborative Practice Behaviors utilized by Nurses and Physicians

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Abstract:

Background: Effective nurse-physician collaboration is essential to enhance satisfaction among nurses, physicians, and patients, increase the quality of care, reduce costs, and improve patient safety. **Aim of the study:** To assess the relationship between collective self-esteem, attitudes toward collaboration, and collaborative practice behaviors utilized by nurses and physicians in a surgical hospital. **Subjects& methods**: **Research design**: A descriptive correlational study design was used in this study. **Setting** :This study was conducted in the Surgical Hospital affiliated to Zagazig University Hospitals**. Subjects:** All staff nurses (n=400) and all physicians (n=100) available at the time of data collection **Tools of data collection :** Collective Self-Esteem Scale, Jefferson Scale of Attitudes toward Collaboration, and Collaborative Practice Scale. **Results**: Findings revealed that nurse-to-physician collaboration had the lowest percent mean score (61.29%). There was a strong positive correlation between the total scores of nurse- to- nurse collaboration and both of nurses' attitudes toward collaboration and nurses' collective self- esteem. There was a strong positive correlation between nurse- to- physician collaboration and nurse's attitudes toward collaboration, nurse's collective self-esteem, and- nurse- to nurse collaboration. However, nurses' attitudes toward collaboration and collective self-esteem explain 85% of the variability in nurse- to-nurse collaborative practice behaviors (NCPS-N), while, nurses' attitudes toward collaboration explain about 90% of the variability in nurse- to-physician collaboration (NCPS-P). **Conclusion**: There is a strong positive correlation between collective self-esteem, attitudes toward collaboration, and collaborative practice behaviors in nurse-to-nurse, nurse-to-physician, and in physician-to-physician interactions. The results also revealed that attitudes toward collaboration and collective self-esteem were strong predictors in nurse-to-nurse and in physician-to-physician collaboration, While attitudes toward collaboration was the only predictor in nurse-to-physician interaction. **Recommendations**: Initiating and developing mutually respectful inter-professional relationships between nurses and physicians through inter professional education in their curriculum to increase understanding of complementary roles of nurses and physicians.

Key words: Collective self-esteem, collaboration, attitudes toward collaboration, Collaborative Practice Behaviors.

Introduction

Safety and quality of health care depend on collaborative efforts of multi professional and multidisciplinary teams of care providers.[(1)] Collaborative practice among all healthcare professionals creates a positive work environment, decreases costs, improves job satisfaction among nurses and improves patient care, as well as decreasing patient morbidity and mortality. Poor communication and lack of teamwork or collaboration have been cited as persistent problems in healthcare method. [(2)] Studies show that nurses who work in environment\s that foster collaboration among health professionals experience improved job satisfaction thereby improving recruitment and retention rates when compared to non-collaborative environments. [(3)]

The term collaborative behavior has been used interchangeably with collaboration and is defined by the interactions in which

professionals work together cooperatively with shared

responsibility and interdependence. Collaboration has been defined as "an evolving process whereby two or more social entities actively and reciprocally engage in joint activities aimed at achieving at least one shared goal. The existence of a shared goal is likely the key element separating collaboration from all other forms of shared work. Collaboration requires an understanding of own and others' roles, mutual respect among participants, commitment to common goals, shared decision making, effective communication relationships and accountability for both the goals and team members. [(4)]

Research suggests that when entities differ in meaningful ways, it can often be difficult for them to work together effectively. Differences in terms of language, knowledge, and backgrounds can lead to a lack of common understanding. In addition, differences between entities in terms of status, industry reputation, and social capital may also affect collaboration and shape interaction. Alternatively, similarities between entities may facilitate a greater desire to collaborate with others compared to those that are different [(4)]

Effective nurse-physician collaboration is essential to enhance satisfaction among nurses, physicians, and patients, increase the quality of care, reduce costs, and improve patient safety. [(5)] Moreover, Boev and Xia [(6)] reported a significant relationship between nurse-physician collaboration and health care associated infections. Nurse–physician Collaborative behaviors exist as a process of communication during the delivery of patient care, and when nurses and physicians work cooperatively, share responsibility for problem solving, address conflict management, perform joint decision–making and use open communication. [(7)] Effective communication is the cornerstone of interdisciplinary collaboration. This is especially true where two different professions such as medicine and nursing with different priorities, are working together to care for patients. [(2)]

However, collaboration can be influenced by the structural characteristics of the entities involved, which include their attitudes toward collaboration and their collective self-esteem. Collective self-esteem is an important issue which originating in the field of psychology that describes the aspect of an individual's self-image that stems from how the individual interacts with others and the groups that the individual is a part of. [(8)] Collective self-esteem refers to our evaluations of social identities. It refers to the feelings and evaluations of the worthiness of a social group-such as racial, ethnic, or work group of which one is a member. [(9)] Collective self-esteem is the extent to which individuals evaluate their social groups positively. [(10)]

Collaboration and teamwork between physicians and nurses is crucial for patient care and morale [(11)].Each team member has his or her own perspective regarding assessment and plan of care for a patient, and only through collaboration and an exchange of information can appropriate treatment plans be made. In addition, physician-nurse collaboration and positive relationships have been identified as major factors contributing to positive patient outcomes and quality care [(12)]. Furthermore, attitude toward collaboration are reflected in the willingness of nurses and physicians to work together toward the attainment of mutually satisfying goals. [(13)]

Significance of the study:

Although nurse-physician collaboration was reported to be an essential element to enhance satisfaction among nurses, physicians, and patients, increase the quality of care, reduce costs, and improve patient safety, previous study that has been conducted in Egypt indicated that there is significant differences existed between nurses and physicians in the medical surgical patient care setting with regard to attitude toward nurse-physician collaboration. Moreover, to date, little is known regarding the predictors of collaborative behaviors that currently exist between nurses and physicians in Egypt in general and at Zagazig University in particular. Also, there is not a lot of research on collective self-esteem among nursing personnel. The long–term objective is to provide evidence to guide the development of collaborative behavior interventions to improve collaborative behaviors among nurses and physicians.

Aim of the study:

The aim of this study was to assess the relationship between collective self-esteem, attitudes toward collaboration, and collaborative practice behaviors utilized by nurses and physicians in a surgical hospital.

Research questions:

1. What is the relationship between collective self-esteem, attitudes toward collaboration, and collaborative practice behaviors in nurse-to-nurse interactions?
2. What is the relationship between collective self-esteem, attitudes toward collaboration, and collaborative practice behaviors in nurse-to-physician interactions?
3. What is the relationship between collective self-esteem, attitudes toward collaboration, and collaborative practice behaviors in physician-to-physician interactions?
4. What indicators predict nurse-to- nurse collaboration?
5. What indicators predict nurse- to-physician collaboration?
6. What indicators predict physician -to- physician collaboration?

Subject and Methods

Research design

A descriptive correlational study design was used in this study.

Setting

This study was conducted at the Surgical Hospital, affiliated to Zagazig University Hospitals, it contains nine departments including 438 beds as follows: The surgical departments contain 144 beds, The Ear, Nose and Throat (ENT) Department contains 42 beds, The Orthopedic Department contains 66 beds, The Urology department contains 56 beds, The Gynecology Department contains 40 beds, The Neurology Department contains 48 beds, The kidney transplantation unit contains two beds, the Operating rooms and Intensive care units contain 40 beds.

Subjects:

Two groups of subjects included in this study to achieve its aim. They were all staff nurses (n=400) and all physicians (n=100) available at the time of data collection who were working in the previous setting and having at least one year of experience in clinical field.

Tools of data collection:

The data of this study were collected using three tools:

Tool I : *Collective Self-Esteem Scale (CSE)* was developed by Luhtanen and Crocker [14] to assess individual differences in nurse and physician collective self-esteem based on their memberships in achieved professional groups (e.g. nursing and medicine). The CSE scale has 16 items grouped into four subscales;

1) Membership esteem (4 items); 2) public collective self-esteem (4 items); 3) private collective self-esteem (4 items); and 4) importance to identity (4 items).

Scoring system: All items were answered on a 7-point Likert-type scale ranged from strongly agree (7) to strongly disagree (1). The reliability and validity of the scale was reported by Luhtanen and Crocker. [13] Alpha coefficients ranged from .77 to .90 for each subscale and .88 for the total scale. There was reversed score answer to items 2, 4, 5, 7, 10, 12, 13&15

Tool II: *Jefferson Scale of Attitudes toward Collaboration (NJSA)*

Developed by Hojat et al., [13] to measure the effect of positive attitude toward collaborative practice behaviors, it was used by nurses and physicians. The attitude survey instrument consisted of 15 items.

Scoring system: All items were answered on a 4-point Likert-type scale ranged from strongly agree (4) to strongly disagree (1). The higher the total score, the more positive attitude toward nurse-physician collaborative relationships. The reliability and validity of the scale was reported by Hojat et al., [13] the coefficients of alpha were 0.74 and 0.78 for nurses and physicians respectively.

Tool III: *Collaborative Practice Scale (CPS)*

A modified version of Weiss and Davis' [14] Collaborative Practice Scale (CPS) was selected to measure the collaborative practice behaviors of nurses and physicians. The tool was originally developed by Weiss and Davis' [15] then modified by Bankstone. [15] The CPS consists of two distinct self-report measures that were designed to assess the degree to which the interactions of nurses (scale 1) and physicians (scale 2) synergistically influence the delivery of patient care.

The scale for nurses consisted of 14 items that measured the direct assertion of professional expertise/opinion and active clarification of mutual responsibility among nurses and between nurses and physicians. ***The physician scale*** consisted of 11 items measuring acknowledgements of the nurse's contributions to patient care decisions and outcomes and consensus development with nurses.

Scoring system: Items were answered on a 6-point Likert scale ranged from very often (6) to not at all (1). Higher scores implied greater use of collaborative practice by the physician or the nurse. Cronbach's alpha coefficients for the nurse and physician CPS scales were .80 and .84 respectively.

Content validity and reliability:

Data were collected using a self-administered questionnaire, after the translation of the instruments to Arabic. The content validity of the instruments was conducted by a group of expertise (5) from academic nursing staff, Zagazig and Ain-shams University who revised the tools for clarity, relevance, applicability, comprehensiveness, understanding,

and eases of implementation and according to their opinion minor modifications were applied.

Field work:

Data were collected using a self-administered questionnaire, after the translation of the instruments to Arabic. data collection took three months from the first of October, 2014 to the end of December, 2014, during morning and afternoon shifts. The time consumed to answer each questionnaire sheet ranged from 30 to 45 minutes.

The pilot study:

A pilot study was carried out before starting the actual data collection. The purpose of the pilot study was to ascertain the clarity, and applicability of the study tools, and to identify the obstacles and problems that may be encountered during data collection. It also helped to estimate the time needed to fill in the questionnaire. Based on the results of the pilot study, modifications, clarifications, omissions, and rearrangement of some questions were done. The pilot study was done on representative sample of 40 nurses and 10 physicians working in Surgical Hospital, and those were excluded from the total sample to assure the stability of the result.

Administrative and ethical considerations:

Before starting data collection an official letters were addressed from the dean of faculty of nursing to the director of hospitals to requesting approval for collection of data. The agreement for participation of the subjects was taken orally (after aims of the study were explained to them, they were given an opportunity to refuse or to participate and they were notified that they were assured that the information would utilized confidentially and used for the research purpose only.

Statistical analysis

Data entry and statistical analysis were done using the statistical package for social science SPSS, version 17.0. Cleaning of data was done to be sure that there was no missing or abnormal data. Data were presented using descriptive statistics in the form of frequencies and percentages for categorical variables, and means and standard deviations for continuous variables. Pearson correlation analysis was used for assessment of the inter-relationships between total scale scores. Multiple regression analysis was used to identify the predictors of nurse and physician collaboration. Statistical significance was considered at p-value < 0.05.

Results

Table (1) demonstrate personal characteristics of study subjects, it reveals that nurses were primarily female (96%) and physicians were primarily male (77%). Nurses ranged in the age group from 21 to 55 years, 36.8 % of nurses were in the age group from 26 to less than 35 years, while almost all physicians ranged in the age group from 21 to less than 46 years old. The results also show that, nearly two fifth (40.8% & 40 %) of both participants (nurses &physicians) have experience ranged from 5 to 10 years. Regarding qualification, 63% of nurses held diploma degree in nursing, while 36% of physicians held master degree. As for job positions 67.5% of the nurses were staff nurses, 65% of the physicians were faculty members.

Table (2) shows statistics for total score of the study variables among the study sample, the highest percent

mean scores were related to nurses' and physicians' attitudes toward collaboration (93.95%, & 84.05% respectively), followed by nurse-to-nurse collaboration (77.7%). while the lowest percent mean score was related to nurse-to-physician collaboration (61.29). Regarding to collective self-esteem, physicians are higher in collective self-esteem (66.98) than nurses (65.42)

Table (3) Correlations between total scales scores among the study sample it reveals that, there was a strong positive correlation between the total scores of nurse- to- nurse collaboration (NCPS-N) and both of nurses' attitudes toward collaboration (NJSA) and nurses collective self-esteem (NCSE) (r=. 923, &.879 respectively) .(in response to research question 1).

As well, there were strong positive correlations between nurse to physician collaboration (NCPS-P) and nurses attitudes toward collaboration (NJSA) , nurses' collective self-esteem (NCSE), and nurse to nurse collaboration (NCPS-N) (r = .947, .906, & . 994 respectively). (In response to research question 2).

There were a strong positive correlations between physician collaboration (PCPS) and both of physicians' attitudes toward collaboration (PJSA) and physicians' collective self-esteem (PCSE) (r=. 871, & .942 respectively). (In response to research question 3).

Table 4: nurse-to-nurse collaborative practice model with predictors' scale. The table indicates that nurse attitude toward collaborative practice behaviors *and* nurses Collective self-esteem are independent factors affecting and predicting nurse to nurse collaborative practice behavior; as increase in nurse attitude toward collaborative is associated with increase in nurse-to-nurse collaborative practice (regression coefficient =0.455, p<0.001), while an increase in Collective self-esteem is associated with decrease in nurse-to-nurse collaborative practice (regression coefficient = -0.329, p<0.001). The model R2 value was 0.852, indicating 85.2% of the variability/variance in NCPS-N could be attributed to that model. (In response to research question 4).

Table 5 : Nurse-to-physician collaborative practice model with predictors 'scale. The table indicates that nurses' and physicians' attitudes toward collaboration is the independent factor affecting and predicting nurse to physician collaborative practice behavior; as increase in nurses' and physicians' attitudes toward collaboration is associated with increase in nurse-to-physician collaborative practice (regression coefficient =0.917, p=0.002).The model R2 value was 0.897, indicating that the model explain 89.7% of the variability/variance in Nurse-to-physician collaborative practice. (In response to research question 5)

Table 6: Physician-to-physician collaborative practice model with predictors' scale. The table Indicates that Collective self-esteem is the independent factor affecting and predicting physician to physician collaborative practice behavior; as increase in Collective self-esteem is associated with increase in physician -to-physician collaborative practice (regression coefficient =0.972, p=0.001).The model R2 value was 0.759, indicating that the model explain 75.9% of the variability/variance in PCPS (in response to research question 6)

Discussion

Collaboration and team work between physicians and nurses is crucial for patient care and morale. Each team member has his own perspective regarding assessment and plan of care for a patient and only through collaboration and exchange of information can appropriate treatment plans be made El-Sayed and Sleem [(11)] When physician and nurse work together, the nature of their interactions has the potential to influence the patient care they provide. Collaboration describes interactions in which professionals work together cooperatively, with shared responsibility and interdependence. Physician-nurse collaboration has beneficial and desirable effects for patients and providers. [(16)]

The aim of this study was to assess the relationship between collective self-esteem, attitudes toward collaboration, and collaborative practice behaviors utilized by nurses and physicians in a surgical hospital.

The findings of this study show that nurses had a higher percent mean score of attitudes toward collaboration than physicians, indicating that the nurses' attitudes toward collaboration were more positive than the physicians. It may be that attitude toward collaboration changes as professional nurses gain more experience, and the highest percent of the studied nurses representing less than half had more than10 years of experience compared to one third in physicians. These results agree with Stacy [(17)] who conducted a study to assess nurse-physician collaboration: a comparison of the attitudes of nurses and physicians in the medical – surgical patient care setting and Amsalu et al., [(18)] who conducted a study to assess Attitudes of nurses and physicians towards nurse-physician collaboration in northwest Ethiopia and reported similar findings. Same findings were also reported by El-Sayed and Sleem, [(11)] who conducted a study to assess nurse-physician collaboration: A comparative study of the attitudes of nurses and physicians at Mansoura university hospital, Egypt and found that the nurses' attitude mean total score was significantly higher than that of the physicians'. Same results were also reported by Sollami and colleagues [(19)] who conducted a study about nurse-physician collaboration: a meta-analytical investigation of survey scores.

The result of the study indicated that the physicians had higher percent mean score on

collective self-esteem (CSE) than nurses. This may be related to the unequal power between nurses and physicians. Nurses used more support/agreement messages when interacting with physicians, while physicians used more in giving opinion added to that the differences in level of education and the preparation for both professions. This result is congruent with Nelson et al., [(3)] who conducted a study to assess nurse-physician collaboration on medical-surgical units and found that physicians had higher total mean scores on the CPS than nurses. This result was also supported by Taylor, [(16)] who conducted a study to assess attitudes toward physician-nurse collaboration in anesthesia and indicated that successful collaborative interactions between nurses and physicians should not be hierarchical, with power shared among participants who are considered collegial equals.

The results of this study also showed that nurse-physician collaboration was the lowest percent mean score. This may be explained as the nurse-physician relationship has been based on power and hierarchy, where the physician gave the order

and the nurse fulfilled it. Accordingly, this traditional relation may be a barrier to nurse physician collaboration. Moreover, lack of valuing the other contributions and distrust, lack of positive orientation toward teamwork, and open meaningful communication between the parties may be also other causes. These results are supported by Foth et al. [20] who conducted a study to assess the long way toward cooperation: nurses and family physicians in northern Germany and concluded that the devaluation of nurses and their work is a root cause of the persistent problems in inter-professional cooperation. This result agrees also with Lindeke and Sieckert, [21] who conducted a study to assess nurse-physician workplace collaboration and mentioned that unequal power and authority influences interdisciplinary collaboration. The results also were in accordance with Bankstone, [22] who conducted a study entitled "Collective Self-Esteem and Attitudes toward Collaboration as Predictors to Collaborative Practice Behaviors Used by Registered Nurses and Physicians in Acute Care Hospitals in Southwest Ohio, USA " and suggested that collaboration between health care professionals can be achieved by moving to interdisciplinary educational experiences, which require curricular changes in the current educational programs for nursing and medicine to enhance respect for the professional roles.

The findings of this study show a strong positive correlation between Nurse-to-nurse collaborative practice behavior and both of attitude toward collaborative practice behaviors and nurses collective self-esteem, which indicated that nurses with positive attitudes toward collaboration and who have positive collective self-esteem were more likely to demonstrate collaborative practice behavior with other nurses. These findings agree with Bankstone, **[22]** who found positive correlations between Nurse-to-nurse collaborative practice behavior and both of attitude toward collaborative practice behaviors and nurses collective self-esteem.

The results of this study indicates that attitude toward collaborative practice behaviors *and* nurses Collective self-esteem are independent factors affecting and predicting nurse to nurse collaborative practice behavior. The model R2 value was 0.852, indicating 85.2% of the variability in NCPS-N could be attributed to that model. Accordingly, JSA and CSE were strong predictors in nurse-to-nurse collaboration. This explanation was supported by Farrell, **[23]** who clarified that nurses who have positive attitudes about collaboration were more likely to demonstrate collaborative practice behaviors with other nurses. This finding agreed also with Foth et al. **[20]** who found that low esteem of nurses is obstacle to effective collaboration.

The findings of this study indicate that nurse attitude toward collaborative practice behavior is the independent factor affecting and predicting nurse to physician collaborative practice behavior. The model R2 value was 0.897, indicating that the model explain 89.7% of the variability in NCPS-P. This may be related to that nurse's attitudes toward collaboration have the highest percent mean score (93.95%). This result was supported with that of Promdecha, **[24]** who carried out a study entitled « Predictive Factors of Advanced Practice Nurse-Physician Collaboration in Patient Care», and reported that nurses who have more positive attitudes toward nurse-physician collaboration in patient care are more collaborative with physicians; and these attitudes explain 42.1% of the variance in the nurse-physician

collaboration in patient care. According to El Sayed and Sleem, [11] collaboration between physicians and nurses is rewarding when responsibility for patient well-being is shared. They added that professionalism is strengthened when all members take credit for group successes.

Conclusion:

The results of the study revealed that there is a strong positive correlation between collective self-esteem, attitudes toward collaboration, and collaborative practice behaviors in nurse-to-nurse interaction, nurse-to-physician interaction, and in physician-to-physician interactions. The results also revealed that attitudes toward collaboration and collective self-esteem were strong predictors in nurse-to-nurse and in physician-to-physician collaboration. While attitudes toward collaboration was the only predictor in nurse-to-physician interaction

Recommendations:

Based on the results of the present study, the following recommendations are suggested:

- Initiating and developing mutually respectful inter-professional relationships between nurses and physicians through inter professional education in their curriculum to increase understanding of complementary roles of nurses and physician, and encourage establishment of an interdependent relationship between them.
- Nursing administrators should develop a program that focuses on enhancing a collaborative working environment and team work.
- Forums to disseminate the result of research on collaboration can provide opportunities for open discussion and problem solving, thus creating an ongoing awareness of the need for improved collaboration, especially in the physician group.
- Joint participation in the orientation process for both new nurses and physician.

Recommendations for Future research:

Based on the statistical findings of this study further investigation needs to be done on nurse-physician collaboration on a surgical hospital and examines the factors within and between cultures that will contribute to improving these relationships.

Table 1: Demographic characteristics of the study subject.

Demographics characteristics	Nurse (n= 400)		Physician(n= 100)	
	No	%	No	%
Age in years:				
21-	138	34.5	18	18.0
26-	147	36.8	53	53.0
36-	71	17.8	28	28.0
46-<55	44	11.0	1	1.0
Gender :				
Male	16	4.0	77	77.0
Female	384	96.0	23	23.0
Experience(in years):				
<5	58	14.5	30	30.0
5-10	163	40.8	40	40.0
>10	179	44.7	30	30.0
Job position:				
Staff nurse	270	67.5	-	-
Head nurse	130	32.5	-	-
Faculty staff physician	-	-	65	65.0
Resident physician	-	-	35	35.0
Qualification				
Diploma	252	63.0	-	-
Diploma + specialty	81	20.3	-	-
Bachelor	67	16.8	33	33.0
Master	-	-	36	36.0
Doctorate	-	-	31	31.0

Table 2: descriptive statistics for total score of the study variables among the study subject.

Variables	% of mean score	Nurses (n=400)			% of mean score	Physicians (n=100)		
		Mean	±SD	Range		Mean	±SD	Range
Collective self-esteem	**65.42**	73.287	6.92	47.00-90.00	66.98	75.020	5.48	55.00-87.00
Jefferson Scale of Attitudes	**93.95**	56.372	4.31	35.00-60.00	84.05	50.430	3.91	33.00-60.00
Nurse-to-nurse collaboration	**77.7**	23.312	7.40	18.00-26.00	--	--	--	--
Nurse-to-physician collaboration	**61.29**	33.415	7.13	12.00-42.00	--	--	--	--
Physician-to-physician collaboration	**--**	--	--	--	**67.11**	44.300	6.65	31.00-66.00

Range for total scores: CSE = 16-112; JSA = 15-60; NCPS-N = 5-30; NCPS-P = **9-54**; PCPS 11- 66

Table 3: Correlations between total study variables scores among the study sample (nurses, No=400; Physician, No= 100)

Scale	Nurse Jefferson Scale of Attitudes	Nurse collective self-esteem	Nurse-to-nurse collabor-ation	Nurse-to-Physician collabora-tion	Physician Jefferson Scale of Attitudes	Physician collective self-esteem	Physician collaborative practice
Nurse Jefferson Scale of Attitudes	--	.951(**)	.923(**)	.947(**)	--	--	--
Nurse collective self esteem	.951(**)	--	-.879(**)	.906(**)	--	--	--
Nurse-to-nurse collaboration	.923(**)	.879(**)	--	.994(**)	--	--	--
Nurse-to-Physician collaboration	.947(**)	.906(**)	.994(**)	--	--	--	--
Physician Jefferson Scale of Attitudes	--	--	--	--	--	.829(**)	. 942(**)
Physician collective self esteem	--	--	--	--	.829(**)	--	.871(**)
Physician collaborative practice	--	--	--	--	.871(**)	.942(**)	--

*Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 4 : nurse-to-nurse collaborative practice model with predictors' scale.

Dependent Variable: NCPS-N							
R-Square =..852	Adjusted R square=.851			F change =1140.05		NCPS-N Total Mean= 33.41	
Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	31.908	4.930	-	6.473	.000	22.217	41.599
Jefferson Scale of Attitudes	.455	.083	.275	5.514	.000	.293	.617
Collective self-esteem	-.329	.051	-.320	-6.400	.000	-.431	-.228

Table 5: Nurse-to-physician collaborative practice model with predictors' scale.

Dependent Variable: NCPS-P							
R-Square = .897	adjusted R square=.897		F change = 1722.83		NCPS-N Total Mean= 33.3125		
Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	-39.366	1.652	-	-23.82	.000	-42.614	-36.117
Jefferson Scale of Attitudes	.917	.054	.890	17.109	.002	.812	1.023
Collective self esteem	.099	.086	.060	1.146	.252	-.070	.268

Table 6: Physician-to-physician collaborative practice model with predictors' scale

Dependent Variable: PCPS							
R-Square = .759	Adjusted R square= .754		F change = 153.4		PCPS Total Mean= 44.30		
Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	-34.915	4.541		-7.689	.000	-43.928	-25.902
Jefferson Scale of Attitudes	.125	.253	.073	.493	.623	-.377	.626
Collective self-esteem	.972	.180	.802	5.399	.000	.615	1.330

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