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# The mediation role of intention in knowledge sharing behavior

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## Abstract

**Purpose** – This paper aims to examine the mediation role of behavioral intention in the relationship between attitude, subjective norm, perceived behavioral control and knowledge sharing behavior.

**Design/methodology/approach** – The study adopted a cross-sectional design to collect data used to carry out mediation analysis. Structural equation modeling was used to test for the mediation effect based on the theory of planned behavior.

**Findings** – The results reveal positive and significant relationships between attitude, subjective norm, perceived behavioral control and behavioral intention. There is a full mediation effect of behavioral intention between attitude, subjective norm, perceived behavioral control and knowledge sharing behavior. This implies that behavioral intention wholly processes planned behavior prediction.

**Research limitations/implications** – The sample size was small, covering only two referral hospitals which affects the generalization of findings across all the hospitals in Uganda. The study was cross-sectional focusing on a one-off perception, which does not examine knowledge sharing behavior over time. This may necessitate follow-up studies in a longitudinal design to capture the trend of results.

**Practical implications** – Managers in referral hospitals should create opportunities for health professionals to enhance knowledge sharing behavior. Knowledge sharing practices should be embedded in the performance appraisal and reward systems which should promote positive knowledge sharing attitudes and norms and develop self-efficacy.

**Originality/value** – The study generates empirical evidence on less studied phenomena in the health sector focusing on behavioral intention mediation in predicting knowledge sharing behavior.

**Keywords** Uganda, Knowledge sharing behaviour, Health professionals, Planned behaviour, Referral hospitals

**Paper type** Research paper

## Introduction

Knowledge sharing is one of the key processes in building the knowledge resources that are useful for the quality of service delivery in an organization (Gebretsadik *et al.*, 2014). The need for sharing knowledge is more imperative among knowledge workers like healthcare workers who must exchange useful information among themselves during the course of their duties (Gebretsadik *et al.*, 2014; WHO, 2006). Take for instance a midwife who needs advice on the proper delivery of an expectant mother he/she can seek for knowledge about the maternal case from a colleague, be it a gynecologist or a fellow midwife.

It is important to share knowledge among employees because sharing aids personal mastery through action learning and knowledge retention in case the knowledgeable person



quits the job. Personal mastery and knowledge retention build employee competence and internal knowledge supply. That is why knowledge sharing is part of the knowledge management strategy designed by the World Health Organization (WHO, 2006). The sharing and application of knowledge makes knowledge sharing a strategic orientation of knowledge management.

According to WHO (2006), knowledge sharing is key in bridging the know – do gap whereby those who know can help those who do not know with knowledge to do their work. Knowledge sharing behavior occurs in two ways: those who have the knowledge whether tacit or explicit provide it to those who need it and those who need it can as well seek for knowledge (Tohidinia and Mosakhani, 2010).

Despite the value of knowledge sharing in organizations, research about what explains knowledge sharing behavior is diverse and in some cases sparse. Different studies have been done and have explained knowledge sharing behavior using different predictors, designs and contexts. For instance, Sohail and Daud (2009) used work culture, motivation, nature of knowledge and attitude to explain knowledge sharing among academics without testing for the mediation of behavioral intention. According to Ajzen (1991), actual behavior is associated with one's attitude, subjective norm and perceived behavioral control through behavioral intentions. The current study treats behavioral intention as a mediator between attitude, subjective norm, perceived behavioral control and knowledge sharing behavior.

Tohidinia and Mosakhani's (2010) study in the oil sector focused on organizational factors like rewards and climate besides planned behavior dimensions though the study did not examine the mediation effect of behavioral intention to predict the actions of sharing knowledge. Yet, behavioral intention theoretically appears as a mediator of attitude, subjective norm, perceived behavioral control and actual behavior (Ajzen, 1991). Even a recent study by Gebretsadik *et al.* (2014) though carried out among health workers like the current study, it emphasized factors like salary to predict knowledge sharing practices without due regard to behavioral intention as a causal mechanism of knowledge sharing behavior. Arising out of the knowledge gap in the extant literature, this study makes the following contribution:

- evidence on knowledge sharing behavior of health workers;
- relating behavioral intention to the actual knowledge-sharing behavior and not focusing only on the behavioral intention to share knowledge like Bock *et al.* (2005);
- testing the prediction potential of knowledge sharing behavior; and
- finally, provision of empirical evidence on the mediation role of behavioral intention in planned behavior with a focus on knowledge sharing behavior.

### Theory and hypotheses

In this part of the study, we provide the theory that underpins knowledge sharing behavior in an organizational context. This study uses the theory of planned behavior (TPB) as a theoretical framework to explain knowledge sharing behavior of health workers. The TPB as developed by Ajzen (1991) is one of the best social-psychological framework that explains and predicts human behavior. The TPB was proposed to assess why different people tend to engage in a particular behavior at any one time.

The TPB was developed based on the weakness of theory of reasoned action (TRA). According to Ajzen (1991), the TRA does not explain behavior that is under the control of an individual. Therefore, there was need to extend the TRA by introducing perceived

behavioral control to cater for one's behavior controllability. Based on this extension, the TRA was renamed TPB (Ajzen, 1991).

According to the TPB, the individual's action is determined by his or her intention and perceived behavioral control besides his or her attitude, and subjective norms (Ajzen, 1991; Chatzoglou and Vraimaki, 2009). Intention refers to the individual's readiness to engage in a particular behavior. The individual's attitude toward a behavior influences the intention to act. Attitude toward a behavior is based on behavioral beliefs which are beliefs about the expected consequences of a particular behavior and the corresponding favorable or unfavorable evaluation of these consequences (Chennamaneni *et al.*, 2012). Subjective norms refer to normative beliefs about the perceived social pressure from significant others to engage or not to engage in a behavior. Perceived behavioral control (PBC) is one's ability to control the factors that may affect his or her actions. The more one believes that he/she controls the behavioral resources and impediments, the higher the behavioral intentions and actual behavior. The current study examines knowledge sharing behavior of health workers based on the TPB. Subsequently, we review empirical literature related to the study.

### **Attitude and behavioral intention**

The individual's attitude is believed to determine the willingness to engage in a certain behavior (Chatzoglou and Vraimaki, 2009). It has been established that attitude is one's evaluation of behavior which results into a decision to execute the action (Chennamaneni *et al.*, 2012). An individual's positive attitude toward knowledge sharing can motivate him/her to engage in knowledge sharing (Chennamaneni *et al.*, 2012; Chatzoglou and Vraimaki, 2009).

The person's intention to share knowledge is influenced by his or her evaluative judgment of the outcome of sharing the knowledge. Positive outcomes can stimulate an individual's will to share knowledge (Chennamaneni *et al.*, 2012; Chatzoglou and Vraimaki, 2009). According to Chennamaneni *et al.* (2012), the more positive one's attitude toward knowledge sharing is, the higher the individual's behavioral intention to share knowledge. Thus, we hypothesize that:

*H1.* There is a positive and significant relationship between attitude and behavioral intention.

### **Subjective norms and behavioral intention**

The individual's intention to act is influenced by expectations of the referent group that he/she belongs (Chennamaneni *et al.*, 2012; Chatzoglou and Vraimaki, 2009). In the community of practice, people hold normative beliefs which determine one's intention to behave in a certain way. In regard to knowledge sharing, an individual in a community will have beliefs about what important others expect him or her to do about sharing knowledge which beliefs create intentions to knowledge sharing (Chennamaneni *et al.*, 2012; Chatzoglou and Vraimaki, 2009). Accordingly, we can argue that a health worker who perceives his or her important others to share their knowledge develops normative beliefs which evoke high intentions to sharing his or her knowledge. The perception that the individual realizes enables him or her to decide on how to act. According to Ravis and Sheeran (2003), an individual develops intentions to act after a critical analysis of how other significant people act. A study by Chennamaneni *et al.* (2012) found out that subjective norm toward knowledge sharing is positively related to behavioral intention to share knowledge. In this view, we hypothesize that:

H2. There is a positive and significant relationship between subjective norm and behavioral intention.

### *Perceived behavioral control and behavioral intention*

Perceived behavioral control is one of the antecedents of intentions to engage in behavior (Ajzen, 1991). Perceived behavioral control as the ability to predict behavior in question involves skills, resources, amount of information one possesses, emotions and opportunities to perform the activity. Intention refers to the individuals's motivation and willingness to engage in a particular behavior as long as the behavior is under the control of the actor (Ajzen, 1991). This implies that whenever individuals form intentions based on the perceptions that such behavior is under their control, then they are likely to engage in that behavior.

Research findings by Framarin (2008) indicate that the construct behavioral intention requires elements of ability in an effort to perform a particular behavior. This is consistent with the TPB in which intention to engage in certain behavior is determined by an individual's perceived control toward that behavior (Ajzen, 1991), and behavioral achievement is a function of motivation (intention) and ability (behavioral control). Intention to share knowledge is affected by self-efficacy a control belief factor under the TPB (Liao *et al.*, 2013). Self-efficacy, has in the past received considerable empirical support as an important antecedent to behavioral intention (Ajzen, 2006). Research findings by Lin and Lee (2004) indicate a positive relationship between perceived behavioral control and intention, although the relationship was not significant, and hence the need for further studies. From this review, we state the hypothesis that:

H3. Perceived behavioral control is positively and significantly related to behavioral intention.

### *Behavioral intention and knowledge sharing behavior*

Behavioral intention has been found to be the immediate precursor of behavior (Ryu *et al.*, 2003). Hooff *et al.* (2012) view intention as the willingness of individuals to engage in the knowledge sharing behavior. Intention to engage in a specific behavior is a central factor in the TPB, and the stronger the intention to engage in a behavior, the more one is likely to act accordingly. As a predictor of knowledge sharing behavior, intentions can be enhanced by the organization to promote knowledge sharing actions (Lin and Lee, 2004). Research by Reychav and Weisberg (2010) indicated a positive relationship between behavioral intention and knowledge sharing behavior irrespective of whether the shared knowledge is explicit or tacit.

According to Bock *et al.* (2005), individual's intentions to share knowledge depend on the organization's initiatives at organizational level to ensure that knowledge is shared among all organizational members. Therefore, organizations need to put in place and implement knowledge sharing initiatives such as promoting interpersonal interactions among organizational members who can elicit sharing of knowledge (Choi and Lee, 2003; Hooff and Weenen, 2004). Whereas research findings have indicated a positive relationship between intentions and knowledge sharing behavior, the results have shown a weak relationship (Chatzoglou and Vraimaki, 2009; Fullwood *et al.*, 2013). The explanation for this weak relationship remains unclear. Based on this review, we state the hypothesis that:

H4. Behavioral intention is positively and significantly related to knowledge sharing behavior.

### **Attitude, behavioral intention and knowledge sharing behavior**

According to the TPB, behavioral intention links one's attitude to a certain behavior (Ajzen, 1991). This implies that the relationship between attitude and behavior may be direct or indirect. Most of the studies have neither analyzed the direct relationship between attitude and knowledge sharing behavior nor the mediation mechanism of behavioral intention in this relationship (Bhatti *et al.*, 2014; Wu and Zhu, 2012; Chatzoglou and Vraimaki, 2009). Nevertheless, Witherspoon *et al.* (2013) in their meta-analytic study found that attitude toward knowledge sharing is positively associated with knowledge sharing. The positive evaluation of knowledge sharing makes one more willing and likely to share knowledge that benefits the organization. The willingness is a form of behavioral intention that is also associated with actual knowledge sharing (Witherspoon *et al.*, 2013; Reychav and Weisberg, 2010). In this regard, we hypothesize that:

- H5. There is a positive and significant relationship between attitude and knowledge sharing behavior.
- H6. Behavioral intention mediates relationship between attitude and knowledge sharing behavior.

### **Subjective norm, behavioral intention and knowledge sharing behavior**

The TPB postulates that the individual's normative beliefs are associated with his or her willingness to act which ultimately makes him or her to do something (Ajzen, 1991). Normative beliefs refer to the individual's belief that significant others expect him/her to behave in a certain way. According to Witherspoon *et al.* (2013), subjective norms create pressure for professionals to adopt the sharing behaviors of peers. These scholars add that the stronger subjective norms toward knowledge sharing, the greater the frequency and higher quality of knowledge sharing. Wu and Zhu's (2012) study proposed that employee's normative beliefs about the community expectations have a positive effect on his/her intention to share knowledge. These scholars further argue that it is normal for employees to comply with the important others' expectations of engaging in knowledge sharing behavior. Other studies have found subjective norm to be associated with behavioral intention (Bock *et al.*, 2005) which determines actual behavior (Chatzoglou and Vraimaki, 2009). However, the extant studies have not analyzed the mediation effect of behavioral intention in the relationship between subjective norm and knowledge sharing behavior. Arising out of this review, we hypothesize that:

- H7. There is a positive and significant relationship between subjective norm and knowledge sharing behavior.
- H8. Behavioral intention mediates the relationship between subjective norm and knowledge sharing behavior.

### *Perceived behavioral control, behavioral intention and knowledge sharing behavior*

Perceived behavioral control is a key construct that explains why different people act in a particular way. Perceived behavioral control determines the degree to which one engages in a particular behavior based on the control belief factor. Perceived behavioral control refers to the individual's perceived ease or difficulty in performing a particular behavior as a result of past experience and anticipated impediments (Ajzen, 1991). Such behaviors may include knowledge sharing behavior (Ryu *et al.*, 2003; Lin and Lee, 2004). Perceived behavioral



control focuses on the individual's belief that performance of the particular behavior is under the individual's control, influenced by their confidence and ability in performing it (Ajzen, 1991).

Knowledge sharing is one of the processes under knowledge management through which individuals in organizations share knowledge in form of ideas, suggestions and expertise that can be used by all employees at an organizational level to remain competitive (Yu *et al.*, 2010). Researchers and practitioners have observed that organizations do not lack knowledge, but the issue is the readiness of organizational members to share it (Song, 2002).

Knowledge sharing is enhanced by self-efficacy which is the individual's confidence in undertaking certain behavior (Bandura, 1986). In the studies by Ajzen (1991, 2006), self-efficacy is regarded as a control belief factor under the perceived behavioral control. Empirical studies have found out that knowledge sharing behavior is predicted by perceived behavior control among other factors (Ryu *et al.*, 2003; Lin and Lee, 2004; Chatzoglou and Vraimaki, 2009; Tohidinia and Mosakhani, 2010).

The individual's behavioral intention is believed to process his or her ability to share knowledge into actual knowledge sharing. According to Al-Busaidi (2013), professionals who have sufficient knowledge about a certain matter develop intentions to share knowledge and can actually provide technical advice to other professionals on issues of interest. Reychav and Weisberg (2009) argue that physicians are experts in their profession whose perceived ability to share knowledge determines intentions to share knowledge, which intentions lead to actual knowledge sharing among physicians. Depending on one's capability to achieve a certain goal in sharing knowledge, coupled with his or her professional competence, such a person can have intentions of sharing knowledge and ultimately shares knowledge (Goh and Sandhu, 2013).

Goh and Sandhu (2013) in their study about knowledge sharing among academics found a stronger relationship between perceived behavioral control and actual knowledge sharing. On the contrary, Chatzoglou and Vraimaki (2009) found a weak relationship between these study variables. This is a contradiction that needs further investigation. Despite the contribution of these extant studies, they fall short of examining the mediation effect of behavioral intentions in explaining actual behavior. Based on this review, we hypothesize as follows:

*H9.* There is a significant positive relationship between perceived behavioral control and knowledge sharing behavior.

*H10.* Behavioral intention mediates the relationship between perceived behavioral control and knowledge sharing behavior.

## Methods

In this section, we describe the methods that we used to carry out the study focusing on the population and sample, measures and data management.

### *Population and sample*

The population for this study comprised nurses and doctors of Jinja referral hospital and St. Raphael of St. Francis Hospital Nsambya in Uganda. From the population, we used a sample of 120 nurses and 71 doctors. The majority of the respondents (62.8 per cent) were nurses, while 37.2 per cent were doctors. This is in line with the size of the study population where a larger number of people who participated in this study were nurses as compared to doctors. The female respondents were more (64.4 per cent) than male respondents (35.6 per cent).

This is in line with the above finding about nurses being the majority in this study. Nurses in Uganda tend to be more of female gender than male. The number of respondents from Jinja Regional Referral Hospital was higher (56 per cent) than those from St. Raphael of St. Francis Hospital Nsambya (44 per cent).

### *Measures*

We adopted a two-dimensional measure of knowledge sharing behavior (knowledge donation and knowledge collection). Knowledge donation is the voluntary delivery of one's useful information to others who need that information. Knowledge collection is the process of requesting for useful information from the person who knows what one needs. Although [Hooff and Huysman \(2009\)](#) consider knowledge donation and knowledge collection to be one construct, [Hooff and Ridder \(2004\)](#) state that they are two constructs of knowledge sharing, as their study extracted knowledge donation and knowledge collection as components of knowledge sharing. Accordingly, these factors were measured following an instrument developed by [Lin \(2007\)](#) but modified to suit the behaviors of health workers in hospitals. We developed the scales of knowledge sharing behavior on a five-point Likert scale and tested for reliability ( $\alpha = 0.823$ ) and validity (total variance explained = 56.3 per cent). In the scales, the researchers made statements that required the respondents to indicate the level of agreement or disagreement about knowledge sharing behavior.

Attitude is an evaluative judgment about engaging in behavior ([Ajzen, 1991](#)). The evaluative judgment is in terms of behavioral beliefs which determine the probability that the behavior in question would result in a particular outcome. We measured the attitude to share knowledge in line with previous studies ([Asiegbu and Iruka, 2012](#)). We used a five-point Likert scale and tested for reliability ( $\alpha = 0.881$ ) and validity (total variance explained = 63.7 per cent).

Subjective norms refer to an individual's perception of what other important people expect him or her to do ([Ajzen, 1991](#)). This expectation is determined by one's estimate of social pressure to engage in certain behavior. The individual's decision to act in a particular way is also determined by his/her motivation to comply ([Bock et al., 2005](#)). We adopted [Cialdini et al.'s \(2003\)](#) categorization of subjective norms; the injunctive norms which are beliefs of what others think one should do and descriptive norms which are perceptions of what significant others are doing that one ought to do. We measured subjective norms on a five-point Likert scale in terms of descriptive norms and injunctive norms. The reliability and validity test for subjective norms showed acceptable  $\alpha = 0.801$  and total variance explained = 56.9 per cent, respectively.

Perceived behavioral control is a psychological state of one's ability and motivation to engage in a behavior (self-efficacy) including the belief of managing barriers to the behavior like time constraints, costs and availability (controllability) ([Alajmi, 2010](#); [Liao et al., 2013](#)). We measured perceived behavioral control on a five-point scale using the dimensions of self-efficacy and controllability. The reliability and validity test for perceived behavioral control indicated acceptable reliability ( $\alpha = 0.688$ ) and validity (total variance explained = 63.9 per cent).

According to the TPB ([Ajzen, 1991](#)), behavioral intention is one's willingness to act. In [Ravis and Sheeran's \(2003\)](#) study, behavioral intention is described as a person's determination to act in a certain manner – it is this conviction that propels one to execute an intended action. We measured behavioral intention basing on goal intentions and implementation intentions whereby the former are one's self instructions to attain a certain outcome from taking a particular action, while the latter are intentions that specify when, where and how one intends to achieve the goal ([Gollwitzer and Sheeran, 2006](#)). In the five-



point scale, we asked the respondents to indicate their level of agreement or disagreement about their intentions to share knowledge. We tested and found acceptable reliability ( $\alpha = 0.874$ ) and validity (total variance explained = 61.3 per cent). All the items that were used in the questionnaire are in the [Appendix](#).

#### *Data collection*

The researchers made personal visits to Nsambya and Jinja hospitals where we identified respondents whom we requested to fill the questionnaires. The respondents received questionnaires and took 1-2 weeks to fill them at their convenience. The researchers collected the filled questionnaires which were processed.

#### *Data management*

Before data entry, the researchers checked the data for completeness, consistency and accuracy of responses. Through this data check, we identified useful data cases that we entered in the Statistical Package for Social Scientists (SPSS version 21) computer program for analysis. We checked for missing values, examined the pattern of the missing values and the cases with missing values ranged between 0.5 and 1 per cent which were imputed. After the analysis of missing values, the researchers carried out an exploratory factor analysis (EFA). We then computed the variables and tested for normality. The normality results showed a normal distribution with skewness and kurtosis values below 1 and 3, respectively.

The items that were retained by EFA were then subjected to a confirmatory factor analysis (CFA). We then followed a two-step approach ([Medsker et al., 1994](#)) using AMOS (version 18.0). First, we conducted a CFA. The CFA came up with a measurement model for our variables that tested the fit of theoretically grounded model. According to [Hair et al. \(2006\)](#), all the fit indices under [Figure 1](#) indicated that the CFA model fit our data acceptably. Results from CFA model confirm both convergent and discriminant validity. The normed fit index (NFI) = 0.926 indicates acceptable convergent validity, while the average variance extracted (AVE) = 0.51 indicates acceptable discriminant validity ([Hair et al., 2006](#)).

Second, we constructed a structural equation model (SEM) to test the hypotheses. All the fit indices ([Figure 2](#)) are in line with the recommended cutoff points for a model fit ([Hair et al., 2006](#)).

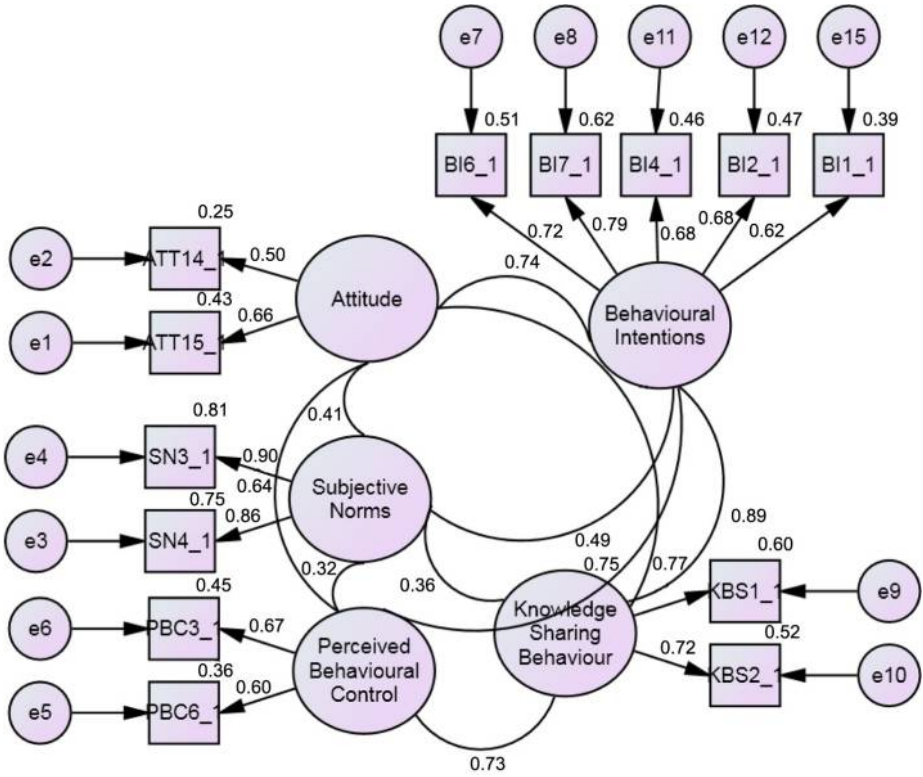
We tested for the mediation effect of behavioral intention in the relationship between attitude, subjective norm, perceived behavioral control and knowledge sharing behavior on the basis of the standardized indirect, direct and total effects – ([Hayes and Preacher, 2014](#)). Mediation occurs if the indirect effects reduce the direct effects when the mediator is controlled for in the path analysis. We also tested for mediation through analysis of competing models – the mediated and non-mediated model ([Table II](#)) to establish, which model has a better fit of the data ([Hair et al., 2006](#)). We compared the competing models using; the fit indices and amount of variance explained ([Morgan and Hunt, 1994](#)).

## **Results**

The results of this study are presented in [Figure 2](#) and the tables below.

The results of the structural equation model reveal an acceptable model fit – the fit indices are above the cut-off points ([Hair et al., 2006](#)). The regression weights from the model that test the hypotheses are presented in [Table I](#).

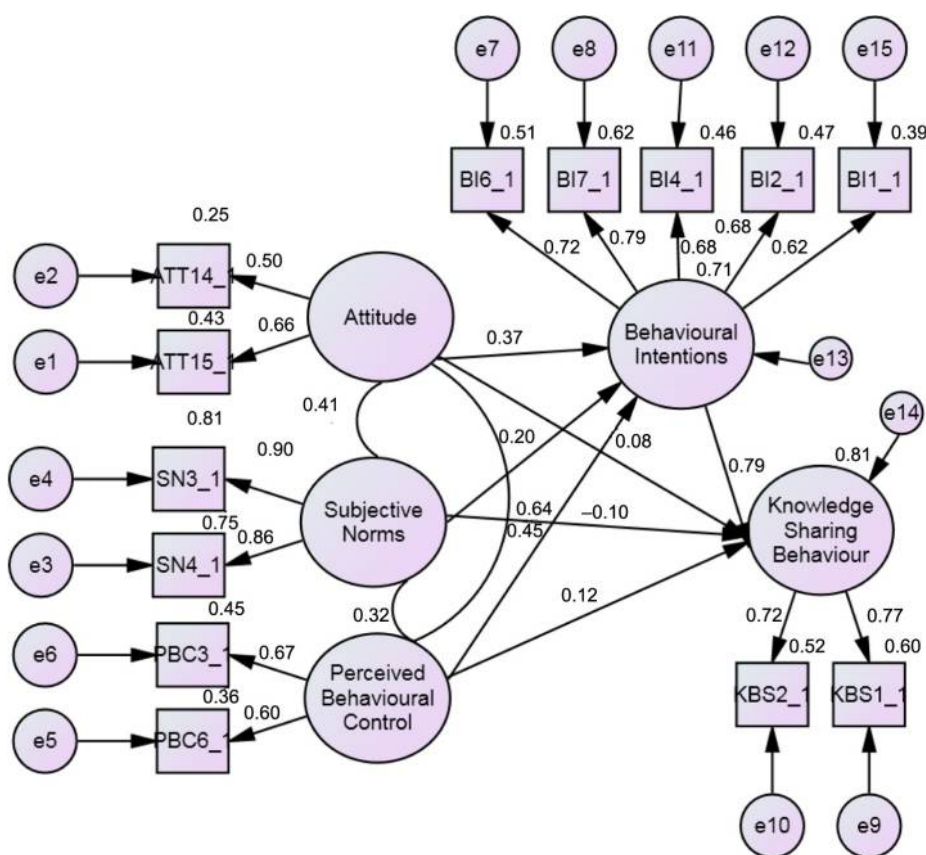
The regression weights were used to establish whether there were significant associations between the study variables as hypothesized from the literature review. The results reveal positive and significant relationships between attitude and behavioral



**Figure 1.**  
CFA model for  
attitude, SN, PBC, BI  
and KSB

**Notes:** Chi-square (CMIN) = 71.272; degrees of freedom (df) = 55; probability ( $p$ ) = 0.069; chi-square-degrees of freedom ratio (CMIN/df) = 1.296; goodness-of-fit index (GFI) = 0.948; adjusted goodness-of-fit index (AGFI) = 0.915; NFI = 0.926; Tucker–Lewis index (TLI) = 0.97; comparative fit index (CFI) = 0.982; root mean square error of approximation (RMSEA) = 0.039; AVE = 0.510

intention ( $\beta = 0.368, p < 0.05$ ), subjective norms and behavioral intentions ( $\beta = 0.201, p < 0.05$ ), perceived behavioral control and behavioral intention ( $\beta = 0.451, p < 0.01$ ), behavioral intention and knowledge sharing behavior ( $\beta = 0.787, p < 0.001$ ). The findings suggest that changes in one’s level of attitude, subjective norm and behavioral controllability are positively associated with the extent to which an individual develops intentions to share knowledge. The results also imply that one’s willingness to share knowledge is positively associated with the extent to which an individual shares knowledge. Therefore, hypotheses  $H1, H2, H3$  and  $H4$  are supported. However, the study found non-significant relationships between attitude and knowledge sharing behavior ( $\beta = 0.090, p > 0.05$ ), subjective norm and knowledge sharing behavior ( $\beta = -0.095, p > 0.05$ ), perceived behavioral control and knowledge sharing behavior ( $\beta = 0.123, p > 0.05$ ). The findings suggest that there is no direct relationship between the predictors and behavior in planned behavior. Possibly, this relationship occurs through a mediator like behavioral intention as postulated by the TPB. Accordingly,  $H5, H7$  and  $H9$  are not supported. Overall, our study model predicts 81



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**Figure 2.** SEM for attitude, SN, PBC, BI and KSB

per cent (squared multiple correlation = 0.81) of the variance explained in knowledge sharing behavior.

*Testing for mediation*

In this study, we investigated the mediating effect of behavioral intention in the relationships between attitude, subjective norm, perceived behavioral control and knowledge sharing behavior. To test for mediation, we used the results of a structural equation model in two ways. First, we analyzed competing models (Table II); second, we examined the standardized total, direct and indirect effects as shown in Table III.

According to the results in Table II, the mediated model emerged as the better fit of the data because its fit indices are acceptably higher than those of the non-mediated model.

**Table I.**  
Regression weights  
of the structural  
model

			Standardized estimate	SE	CR	<i>p</i>	Label
BI	<—	ATT	0.368	0.167	2.070	0.038	par_11
BI	<—	SN	0.201	0.072	2.343	0.019	par_12
BI	<—	PBC	0.451	0.178	2.738	0.006	par_13
KSB	<—	ATT	0.080	0.175	0.467	0.641	par_14
KSB	<—	SN	-0.095	0.076	-1.148	0.251	par_15
KSB	<—	BI	0.787	0.227	3.785	***	par_16
KSB	<—	PBC	0.123	0.201	0.717	0.473	par_18

**Notes:** ATT = attitude; SN = subjective norm; PBC = perceived behavioral control; KSB = knowledge sharing behavior

**Table II.**  
Competing models

		Non-mediated model	Mediated model
Behavioral intentions	<— Attitude		0.368*
Behavioral intentions	<— Subjective norms		0.201*
Behavioral intentions	<— Perceived behavioral control		0.451**
Knowledge sharing behavior	<— Attitude	0.342	0.080
Knowledge sharing behavior	<— Subjective norms	0.053	-0.095
Knowledge sharing behavior	<— Behavioral intentions		0.787***
Knowledge sharing behavior	<— Perceived behavioral control	0.513**	0.123
$\chi^2$		236.688	71.271
Df		59	55
<i>P</i>		0.000	0.069
CFI		0.878	0.948
NFI		0.756	0.927
RMSEA		0.126	0.039
SMC for BI		0.000	0.708
SMC for KSB		0.644	0.812

**Notes:** \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

**Table III.**  
Mediation effect of  
behavioral intention

	Perceived behavioral control	Subjective norms	Attitude	Behavioral intentions
<i>Standardized total effects</i>				
Behavioral intentions	0.451	0.201	0.368	0.000
Knowledge sharing behavior	0.477	0.063	0.370	0.787
<i>Standardized direct effects</i>				
Behavioral intentions	0.451	0.201	0.368	0.000
Knowledge sharing behavior	0.123	-0.095	0.080	0.787
<i>Standardized indirect effects</i>				
Behavioral intentions	0.000	0.000	0.000	0.000
Knowledge sharing behavior	0.355	0.158	0.290	0.000

Besides the data fit difference, the former model has a higher prediction potential than the latter model. This analysis suggests that behavioral intention appears to have mediation power which we further examined as seen [Table III](#).

To test for the mediation hypotheses, we based on [Hair et al. \(2006\)](#), who argue that “when values for the standardized total effect and standardized direct effect of a predictor variable on to the criterion variable are different” then there is mediation. The results in [Table III](#) reveal a full mediation effect of behavioral intention in the relationships between attitude and knowledge sharing behavior, subjective norm and knowledge sharing behavior, perceived behavioral control and knowledge sharing behavior. The mediation effect was realized when the total effects were reduced by the indirect effects of behavioral intention to a non-significant level ([Tables I and III](#)) of the direct effects. The results support *H6*, *H8* and *H10*. The meaning of full mediation is that behavioral intention completely processes one’s attitude, subjective norms and behavioral controllability to determine his or her level of sharing knowledge.

### Discussion

In this part of the study, we discuss the results in line with the purpose of the study and the hypotheses to make a contribution in the knowledge sharing discourse. The purpose of this study is to examine the mediation effect of behavioral intention in planned behavior of knowledge sharing. We undertook this study based on the premise that extant studies have paid less attention on the behavioral intention as a mediator in processing the prediction of attitude, subjective norms and perceived behavioral control on knowledge sharing behavior. Thus, we interpret the results and provide possible explanations about why the findings are what they reflect.

The results of this study found non-significant relationships between attitude, subjective norms, perceived behavioral control and knowledge sharing behavior. This implies that even if an individual has a positive attitude to share knowledge and adheres to subjective norms, time and autonomy to share knowledge, and the knowledge to share, these behavioral factors do not directly translate into knowledge sharing. This finding is contrary to previous studies like those of [Chatzoglou and Vraimaki \(2009\)](#) and [Tohidinia and Mosakhani \(2010\)](#) who found that perceived behavioral control is a significant predictor of knowledge sharing behavior. The finding of this current study appears to suggest that perceived behavioral control is indirectly related to knowledge sharing behavior. This implied indirect relationship between perceived behavioral control and knowledge sharing behavior means that there is need for a mediator like behavioral intention to link behavior controllability and perceived ability to the actions of sharing knowledge.

The action of knowledge sharing may occur in cases such as the individual sharing something new with the colleagues, providing technical advice to solve a work problem and contributing useful information in a meeting. The individual can share either tacit knowledge or explicit knowledge of both. For instance, a medical specialist can guide another health worker on how to handle a certain medical complication verbally or through a written manual. In a community of practice, a person who is in need of knowledge seeks for it from the one who knows. The one who needs knowledge may attend meetings, conferences and workshops to acquire knowledge. The individual may also just consult with anybody in the community of practice to seek for knowledge. To share knowledge, the individual should have a positive attitude, follow the community practices and be in control of the factors that facilitate knowledge sharing through the motivation to share such knowledge.



According to [Liao et al. \(2013\)](#), individuals in organizations should have the interest to share knowledge with other organizational members without acting under coercion. Instead, people should be encouraged and facilitated by the organization to share their knowledge through any possible means. When an individual is forced to share knowledge, it may create employee resentment with a tendency to withdraw his or her efforts. Knowledge sharing is a phenomenon of social exchange as explained by the social exchange theory. This theory postulates that individuals who share knowledge expect reciprocity in exchange of their knowledge ([Bock et al., 2005](#)). This seems to imply that the individual who donates knowledge expects to learn something from the knowledge recipient or to get a specific gain like reputation.

To explicate the indirect effects in this study, the study provides evidence that behavioral intention fully mediates the relationships between attitude, subjective norms, perceived behavioral control and knowledge sharing behavior. This finding means that behavioral intention processes the individual's evaluative judgment, community demands, self-efficacy and behavior controllability to determine his/her motivation to share useful information. Based on the individual's feeling about knowledge sharing, perceived ability and controllability to share knowledge and the expectations of significant others, he or she cognitively develops goals to achieve in knowledge sharing and the mechanisms of sharing useful information. The goals and mechanisms constitute behavioral intention. Thus, the individual's behavioral intention is key in implementing knowledge sharing actions.

After setting the knowledge sharing goals and strategies, the individual can then actually donate or collect knowledge. The goals may be in terms of what the individual seeks to achieve after sharing knowledge, for instance the goal of prestige and perceived power. While the strategies or mechanisms for sharing knowledge may be to participate in meetings, workshops and conferences. Suffice it to include other strategies like the individual's initiative to consult with a knowledgeable other or to provide guidance to a person who needs advice about something.

The idea of formulating goals and strategies for knowledge sharing actions is established in the extant literature. For instance, [Al-Busaidi \(2013\)](#) states that individuals who feel knowledgeable about a particular subject tend to have high intentions to share knowledge and can actually provide their knowledge to others. According to [Reychav and Weisberg \(2009\)](#), experts in their profession who have perceived ability to share knowledge develop goals and strategies to share knowledge which intentions lead to actual knowledge sharing among other people. Similarly, [Goh and Sandhu \(2013\)](#) assert that the individual's ability to realize a certain goal in sharing knowledge, coupled with his or her professional competence, drives such a person to share knowledge.

The findings of this study support the TPB which postulates that one's behavior is determined by his or her attitude, subjective norms and perceived behavioral control. The more an individual believes that he/she is in control of the behavioral resources and impediments, conforms to community expectations, has a positive attitude toward certain behavior, the higher the motivation to engage in actual behavior ([Ajzen, 1991](#)). The construct of perceived behavioral control under the TPB posits that the individual who has time, resources, competence and opportunities to engage in a certain actions will find it easy to do so ([Ajzen, 1991](#); [Goh and Sandhu, 2013](#)). Therefore, in line with this theoretical proposition, we can argue that positive evaluative judgments about behavior, community pressure, favorable factors like time, self-efficacy, resources, competence and opportunities determine the individual's cognitive engagement that leads to actual knowledge sharing behavior.



## Conclusion and implications

The study examined knowledge sharing behavior among health workers to address the extent to which behavioral intention mediates attitude, subjective norm, perceived behavioral control and knowledge sharing behavior. Based on this study, we draw some lessons and contributions for researchers in knowledge management scholarship. The major contribution of this study is that knowledge sharing in a community of practice can be realized on the basis of positive evaluative judgments, community expectations about one's actions and behavioral controllability that are fully processed by behavioral intentions. One surprising lesson is that the relationship between perceived behavioral control and knowledge behavior requires the full mediation of behavioral intention contrary to the theorized partial mediation by [Ajzen \(1991\)](#) in the TPB model. The key issue here is that without an individual committing him/herself to engage in sharing knowledge, behavioral controllability remains inconsequential. According to this study, there is no other way that one's perceived behavioral control can determine his/her action without the process of the individual's behavioral intention. From this study, we posit that an individual who can share knowledge may fail to share it because of his or her limited cognitive engagement to share regardless of his/her positive attitude, conformity to subjective norms and behavioral controllability. Such a person fails to develop the intrinsic motivation to share knowledge. Thus, the extent to which one develops the intention to share knowledge determines the scope of knowledge sharing. The critical role of behavioral intention notwithstanding, the individual still should have a good feeling about knowledge sharing, act according to community expectations, needs time, self-efficacy, resources, competence and opportunities to enable him/her to share knowledge of course through the process of behavioral intention ([Goh and Sandhu, 2013](#)). In the same vein, we also conclude that the more control an individual has over the behavioral resources and impediments, the higher the behavioral intentions and actual knowledge sharing behavior.

The study draws the following implications for practice. Managers of hospitals need to put in place avenues for sharing knowledge effectively. This can be done through organizing periodical meetings, seminars and conferences both at the workplace and other convenient places. These should be more interactive whereby those seeking knowledge will inquire from experts and experienced doctors and those who possess it to pass on this expertise to the novices, nurses, mid wives and other health workers seeking for it. Hospitals should create a specialized section for coordinating the knowledge sharing process. This section can be tasked with the duty of collecting documented knowledge and facilitating interactions between those who possess knowledge and those who need it. This section can compile knowledge in newsletters, periodical magazines and journals and make them available to everyone in the organization.

Management of the hospitals and health care centers should ensure availability of resources critical in promoting knowledge sharing. These resources can include information communication technology in form of internet connectivity where knowledge seekers can search for and receive information in a timely manner. This technology can also facilitate teleconferencing and video conferencing especially in times of emergencies where immediate action needs to be taken. Additionally, health practitioners can be facilitated with transport means to enable them easily move in a bid to share knowledge. In Uganda, health experts are few; yet, they work in more than one health facility a factor that calls for their facilitation aimed at increasing their mobility for knowledge sharing. Health workers should be provided with offices/adequate workspace especially those with implicit knowledge where they can be easily accessed in case of consultation, emergencies or any professional guidance. This will enhance timeliness in sharing knowledge. Practitioners should be given

appropriate work load that allows them to create time for sharing knowledge. Alternative work arrangements can also be initiated to allow flexibility for those who possess knowledge to share it. Managers need to create opportunities for health professionals to enhance and share knowledge such as professional staff development, staff exchange programs with other hospitals, coaching and mentorship from senior colleagues. This will psychologically empower health professionals, thereby increasing their confidence and ability to share knowledge with others who seek for it from them. Knowledge sharing practices should be embedded in the performance appraisal and reward systems which should promote positive knowledge sharing attitudes, norms and develop self-efficacy.

### Limitations of the study

Findings of this study have some limitations that provide the basis for future research.

First, the study is theoretically limited. The study adopted only one theory that is the TPB. Despite the strong behavioral explanations of the theoretical underpinnings of the TPB, it cannot explain the principles of social exchange which are paramount in knowledge sharing behavior. There is need for other studies to investigate the tenets of the social exchange theory in explaining knowledge sharing behavior. As the model of this study explains 81 per cent of the variance in knowledge sharing behavior, other theories may account for the other variance in knowledge sharing behavior.

Second, the study was cross-sectional that focused on a one-off perception, which could have failed to provide long-term manifestations of the study variables. This may necessitate follow-up studies in a longitudinal design to capture the trend of results so as to assume causality.

Third, the sample for this study was small which may not be generalized across all the hospitals in Uganda. This may call for a wider study with many respondents both in the private and public sector to better understand knowledge sharing behavior across the different sectors. The geographical scope was narrow only limited to St. Raphael of St. Francis Hospital Nsambya and Jinja Referral hospitals, which also affects the generalization of results. Future studies need to include more referral hospitals across the country to capture a wider range of information in regard to knowledge sharing behavior among the health workers. Other studies may examine knowledge sharing behavior among different knowledge workers like lawyers, engineers and agriculturists.

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### Further reading

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Questionnaire: Knowledge Sharing behavior						
No.	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
	<b>ATTITUDE</b>					
ATT1	I feel it safe to share knowledge with my colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATT2	I enjoy sharing my knowledge with colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATT3	I share new knowledge with my colleagues because it makes me feel proud	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATT4	Whenever my colleagues and I share knowledge I feel more closer to them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATT5	I feel it wise to share knowledge with my colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATT6	I feel that sharing is caring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATT7	I consider sharing knowledge with my colleagues a good thing to do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATT8	To me, sharing knowledge with my co-workers is worthy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATT9	Sharing knowledge with my colleagues is valuable to both the hospital and patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATT10	I believe sharing knowledge with my colleagues is beneficial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATT11	I believe that when I share my knowledge with other members of the organization it would save many patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(continued)

ATT12	My colleagues always help out when I am in need and it's just fair that I share my knowledge with them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATT13	I always share my knowledge with others because I know in future I will need their assistance too	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATT14	I share my knowledge in an appropriate and effective way	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATT15	It just comes automatic that whenever I get any new knowledge, I share it with my colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATT16	In meetings we hold I endeavor to say something because that way I share knowledge I have with others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>SUBJECTIVE NORMS</b>						
SN1	My friends with whom we work on the same duty consent to my sharing knowledge with everyone at ward	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N2	Health workers whose opinions I value would approve of my behavior to share knowledge with others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SN3	Sometimes I do share knowledge because my superiors think it's necessary for me to do it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SN4	My immediate supervisor expects that everyone s/he works with should be willing to share their knowledge at all times	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SN5	Health workers whom I look up to share their knowledge with the rest of the members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SN6	My colleagues always share their knowledge with other organization members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(continued)



SN7	I think that my supervisor would share any new knowledge they have with me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SN8	The medical director would share his knowledge with me if we had a chance to interact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SN9	Health workers that influence my decisions also share their knowledge with me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	PERCEIVED BEHAVIORAL CONTROL					
PBC1	I am able to share knowledge with my co-workers easily	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PBC2	I am confident in my ability to share knowledge with colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PBC3	I am sure i can share knowledge with my superiors at all times	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PBC4	Knowledge sharing with colleagues is within my control in my department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PBC5	I have the resources I need to enable me share knowledge with colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PBC6	I have the skills I need to share knowledge with colleagues and even my superiors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PBC7	I can only share knowledge with colleagues of the same stature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PBC8	It's mostly up to me whether to share knowledge with my colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	INTENTIONS					
IN1	I always plan to share knowledge with my colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IN2	I always intend to share knowledge with my colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(continued)

IN3	There is a strong likelihood that whenever I get new knowledge I will share it with my colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IN4	I am always set to share knowledge I get with my colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IN5	I always make an effort to share knowledge with my colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IN6	I always aim at sharing knowledge with my colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IN7	I always have a spirit of sharing knowledge with my colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IN8	I always encourage my colleagues to share something new they have found	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IN9	I try to push my friends into discussing new problems so as to be able to get them to share their knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>KNOWLEDGE SHARING BEHAVIOR</b>					
KBS1	Whenever I learn something new, I share it with my colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
KBS2	When they learn something new my colleague tell me about it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
KBS3	I share information with my colleagues when they ask	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
KBS4	I share my skills with my colleagues when they ask	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
KBS5	I always engage in meetings, so as to share knowledge with colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
KBS6	I always engage in meetings, so as to get new knowledge from colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
KBS7	I ask my colleagues about their experience when I need to learn something	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(continued)

KBS8	Colleagues in my department and other departments in the hospital share knowledge with me when I ask them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
KBS9	When my colleague is good at something; I ask him or her to teach me how to do that thing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
KBS10	I am willing to look for knowledge from colleagues based on their expertise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>