

## Statistical Results of the Questionnaire for Sharing

Heesang Yoon<sup>1</sup>, Seunghoi Choi<sup>2</sup> and Hyeryung Kim<sup>3</sup>

<sup>1</sup>*Department of Nursing, Seoul Woman's College of Nursing  
38 Ganhodaro, Sedaemu-Gu, Seoul, 03617, Korea*

<sup>2</sup>*Department of Liberal Arts and Sciences, Korea Aerospace University  
76, Hanggongdaehak-ro, Deogyang-gu, Goyang-si, Gyeonggi-do, 412-791, Korea*

<sup>3</sup>*Department of General Education, Ewha Womans University  
52, Ewhayeodae-gil, Seodaemun-gu, Seoul 03675, Korea*

<sup>1</sup>*viva826@snjc.ac.kr, <sup>3</sup>shchoi@kau.ac.kr*

### Abstract

*In this paper we introduce a questionnaire for evaluating a sharing index and deal with the statistical results of the survey of the Korean women university students. The questionnaire that can evaluate the reciprocal sharing is made by using the Knowledge, Attitude and Practices (KAP) model. Data collected from 481 university students are utilized to test the validity and reliability of the questionnaire for the sharing. The statistical methods, including descriptive statistics, correlation analysis, reliability analysis, and factor analysis, are used for the statistical analysis for the survey. Based on the primary factor analysis that was conducted twice, the sharing index can be divided into category, division, and section. Category consists of knowledge, attitude, practice, and satisfaction. Also, category can be divided into two parts in each division, community and individual division. Division can be classified into sections.*

**Keywords:** *Sharing questionnaire, Knowledge, Attitude, Practice, Satisfaction, Factor analysis*

### 1. Introduction

Korean society has recently placed an emphasis on the importance of character-building education based on communication, empathy, and sharing in liberal arts education in universities. In particular, sharing education has attracted great attention as the essence of character-building education and accordingly diverse types of models have been developed and implemented for sharing education [1][2]. However, there have been no standardized measuring instruments that can properly reflect and evaluate both the emotive realms and qualitative aspects of reciprocal sharing education [3].

Reciprocal sharing brings cooperative changes in the community and encourages the community members to lead a positive life. In this background, this study aims to develop a measuring instrument for reciprocal sharing that enables an objective survey of reciprocal sharing in the category of knowledge, attitude, practice, and satisfaction. Then, the study analyzes the statistical results of the surveyed measuring instrument.

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## **2. Developing a measuring instrument for sharing**

### **2.1. Conceptual framework and preparation of basic questions**

In this study, we examined theoretical backgrounds of sharing based on lexical definitions, literature review, and the Framework Act on Sharing to specify the concepts and definitions of sharing [4][5]. As a result, the concepts of sharing could be divided into reciprocity, coexistence, volunteer service, and donations.

The concepts of sharing used in this study are based on the Knowledge, Attitude, and Practice (KAP) model and applied the learning theory that fair knowledge is formed by positive attitude and practice results from attitude [6]. However, because the KAP model has the weakness of lacking a learning reinforcing factor that practice, in turn, can have impact on knowledge [6], this study added satisfaction felt from practice due to the nature of sharing so that the model could be equipped with a structure of virtuous cycle [7].

A preliminary measuring tool to survey a reciprocal sharing index was made by using literature on sharing and expert opinions. Also, the proposed preliminary measuring tool was reviewed and revised by an expert group, consisting of eight persons, to make a questionnaire to measure the sharing index. The measuring tool for sharing comprised 28 questions on knowledge of sharing, 28 questions on attitude toward sharing, 24 questions on practice of sharing, and 20 questions on satisfaction from sharing. For a preliminary survey, we applied this measuring tool to 20 students from the third and fourth years at a university located in Gyeonggi province.

### **2.2. Testing the measuring instrument**

The measuring instrument for sharing proposed in this study was reviewed by an institutional review board (IRB). Then, using the tool, we researchers conducted a direct survey of 481 university students in their lecture rooms from June 1, 2015 to June 12, 2015. In order to examine general characteristics of the students who responded to the questionnaire for the measuring instrument for sharing, we used descriptive statistics. We used the Cronbach Alpha (CA) coefficient to test the validity and reliability of the measuring instrument that consisted of knowledge of sharing, attitude toward sharing, practice of sharing, and satisfaction from sharing. Also, we used Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test to test the validity of factor analysis of the measuring instrument as well as the alpha factor extraction method and the Varimax rotation method to find out latent variables for the questionnaire.

## **3. Survey results**

### **3.1. Characteristics of the surveyed**

The average age of the university students surveyed by using the measuring tool was 22.2 years old. Of the surveyed students, 53.0 percent had an experience of volunteer service, and 57.8 percent joined club activities in the universities.

### **3.2. Reliability and validity of the measuring instrument**

To decide whether the measuring instrument used in this study made a consistent and exact measurement of the results of reciprocal sharing, we conducted a reliability analysis using the CA coefficient. As all the CA coefficients were 0.6 or above, the reliability of the measuring

instrument could be said to be high.

### **3.3 Factor analysis of the section of the measuring instrument**

To examine how well the measuring instrument consisting of knowledge, attitude, practice, and satisfaction described reciprocal sharing, we made a confirmatory factor analysis. We also conducted KMO measure and Bartlett's spherical test to look for latent factors between the multi-variant variables observed to this end.

According to the KMO test of the category of knowledge, attitude, practice, and satisfaction, the value of each item was 0.5 or above and the p-value of Bartlett's spherical test was 0.000. These results showed that the samples used in this study were appropriate and there existed latent variables for each item in the category. The latent variables or the number of factors for knowledge of sharing, which consisted of 28 questions, were determined by using the eigenvalue. This study selected factors only if their eigenvalue exceeded 0.7. Also, for the factor extraction method, we used the alpha factor extraction method that maximizes the alpha reliability of each factor by regarding variables to be analyzed as samples of latent variables. For the rotation method of this study, we used the Varimax method that minimizes the number of variables with a high loading of each latent variable [8]. We applied the same methods that had been used to knowledge of sharing to attitude toward sharing, practice of sharing, and satisfaction from sharing.

According to the factor analysis, we found in this study that the category of knowledge, attitude, practice, and satisfaction comprised latent variables that fell into nine, nine, six, and five sections, respectively [Figure 1].

### **3.4. Factor analysis for the division of the measuring instrument**

Correlations existed between latent variables in sections of the measuring instrument that had been found through the factor analysis (p-value=0.000). Therefore, we conducted a factor analysis of latent variables that were divided into sections in order to find factors that fell into the division connecting the section and category of sharing. We conducted the factor analysis of knowledge of sharing and attitude toward sharing that were classified into nine factors, respectively; of the practice of sharing classified into six factors; and satisfaction from sharing classified into five factors. According to the results of using the Varimax method that minimizes the loading of latent variables in sections, knowledge of sharing, attitude toward sharing, practice of sharing, and satisfaction from sharing all consisted of two factors [Figure 1].

### **3.5. Nomenclature of the section and division of the measuring instrument**

In this study, we found through the factor analysis that knowledge, attitude, practice, and satisfaction in the category of the measuring instrument were composed of latent variables in the section and factors in the division. In other words, knowledge of sharing consisted of nine latent variables and two factors; attitude of sharing, nine latent variables and two factors; practice of sharing, six latent variables and two factors; and satisfaction from sharing, five latent variables and two factors. In consultation with experts, we named latent variables in the section and factors in the division as below in [Table 1].

Table 1. Category, division, and section of sharing

Category	Division	Section
Knowledge	Community Knowledge	altruism, helper’s high, coexisting society, mutual sharing, diverse systems, proper help, sharing methods
	Individual Knowledge	volunteer service, self-growth
Attitude	Community Attitude	cooperative responsibility, relational encounter, distribution of wealth, poor but honest life, abstinence from greed, fair wealth accumulation
	Individual Attitude	win-win attitude, abuse of sharing, thrifty life
Practice	Community Practice	sharing life, considerate life, frugal life
	Individual Practice	life of volunteer service and donation, purchase of fair goods, use of sharing service
Satisfaction	Community Satisfaction	happiness, cooperative sense, engagement
	Individual Satisfaction	regret

#### 4. Discussion

In this study, we paid attention to the fact that sharing can become a value of coexistence and act as such that may have impact not only on existing emotional commitment but also on human behavior. We also attempted to seek possibilities of forming a sharing and coexisting society by examining and analyzing the knowledge, attitude, practice, and satisfaction.

For the measuring instrument for sharing used this study, we defined items of knowledge, attitude, practice, and satisfaction in the category. To this end, we used the KAP model in which individuals perceive the value of sharing, then form an attitude toward sharing, and make a habit of practicing sharing through interaction. To this model, we added satisfaction of the sharing persons, considering the characteristics of reciprocal sharing.

The division of the measuring instrument consisted of eight latent variables, and the key words of the division were “community” and “individual.” The term of healthy community in which the community members share their interest and collaborate with each other described reciprocity and coexistence, which were the key concepts of this study. The concepts of reciprocity and coexistence were explained as interdependent and rational relationships of the community, and the concepts were described in the measuring instrument for sharing. Community knowledge included not only positive questions about “cooperation,” “overcoming difficulties together,” “sharing,” and “responsibility” but also questions about correcting “injustice” and unjust gains” and “proactive realization of justice” related to improving welfare system. Community attitude included “poor but honest life,” “doing

together,” “neighbor,” “significance of collaboration,” and “just society where wealth is distributed.” Community practice referred to “life in which community members put sharing and considerateness into active practice.” Community satisfaction described “being satisfied with positive social growth through sharing.”

In this study, individual knowledge of sharing described “volunteer service,” “help,” and “joy from donations.” Individual attitude included “emotion wanting to help those who themselves” and individual practice, “sharing experience.” Individual satisfaction had questions on “regrets about the other party’s response to volunteer service or donations,” and therefore sharing from individual motivation became the mainstream.

## 5. Conclusion

This study examined the concepts and components of sharing competency, and based on them proposed a measuring instrument for sharing, then tested the reliability and validity of the measuring instrument. Also, the study sought latent variables of the proposed measuring instrument. The results of statistical analysis showed that the measuring instrument, comprising a total of 100 questions, could be divided into the category of the four areas of knowledge, attitude, practice, satisfaction; the division of eight factors, and 29 sections. As a comprehensive tool that included the concepts and areas of sharing and enabled objective comparison, the proposed measuring instrument could measure sharing competencies at individual and community levels. Also, as it contained knowledge, attitude, practice, and satisfaction, the instrument was distinctive from existing tools that measured donations and volunteer activities. In addition, the measuring instrument for sharing proposed in this study can be used as an objective index to measure the levels of reciprocal sharing in the field of sharing activity. The measuring instrument can also become an important tool to judge how much impact reciprocal sharing has on students’ character or satisfaction with life.

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