

Economic Value of Counseling Services as Perceived by University Students in Japan: A Contingent Valuation Survey

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Abstract

Mental health issues in the student population seem to be increasing and have resulted in an increase in the number of counselors. Such increase in student counseling services is observed even in Japan and is an important research topic. However, no study has examined the economic value of these services in the Japanese context. This study aimed to evaluate perceptions of the economic value of student counseling services among university students in Japan. A study using the contingent valuation method was conducted in which 462 university students were included. Data on sex, age, grade, annual household income, and experience of using student counseling services were compiled. The main outcome was based on willingness to pay (WTP) for availing student counseling services. Study participants indicated a median WTP of JPY 2,796 (USD 27.96) per year. Although lifetime experience of using student counseling services had a positive effect on their WTP, factors such as, sex, age, annual household income, and present use of student counseling services had no effect. Previous experience of receiving counseling influences students' perception of its economic value. This study clarified university students' perception of the monetary value of student counseling services, and these findings provide information useful to policy makers.

Keywords: Student counseling; Mental issues; Economic value of counseling; Contingent valuation study; Willingness to pay; University students

Introduction

Over the past few decades, mental health issues in the university student population have become increasingly prevalent and complex [1]. Certain studies have concluded that mental health issues among students seem to demonstrate a rising trend [2-4]. According to a conservative estimate, approximately 12-18 percent of tertiary students suffer from a clinically diagnosed mental health condition [5]. The American College Health Association reported that as many as 10.6 percent of students was diagnosed or treated by a professional for depression within the last 12 months [6].

Mental health issues in Japan's student population demonstrate a similar growth trajectory, leading to a concomitant rise in the demand for student counseling services in universities and colleges. More than half of the universities provide counseling services free of charge [7]. While suicides are reported to be the most common cause of death among university students in Japan since 1996, absentee and dropout rates because of mental disorders are on the rise [8]. Results of a structured interview revealed that approximately one out of five university freshmen met the criteria in the Diagnostic and Statistical Manual of Mental Disorders (4th ed.) regarding a major depressive episode [9]. In response to these statistics, the Ministry of Education, Culture, Sports, Science and Technology of Japan suggested counselors be appointed in each university and college to help students identify and manage their problems [10].

Even though counseling services offer invaluable stress management solutions to students, lack of clarity on the economic benefits of such services prevents its development. A study involving 291 undergraduate students in Korea indicated the participants' willingness to pay (WTP) for career counseling was between USD 10.22 to USD 10.54 per hour [11]. Further, a study on the economic effect of specific psychotherapies, such as cognitive behavioral therapy, estimated the economic costs and benefits of providing psychological therapy and showed the cost could be recovered within a few years [12]. Moreover, a review of the economic impact of psychotherapy concluded

it appears to reduce a variety of costs incurred in the treatment of mental disorders [13]. In addition, many economic evaluation studies and reviews related counseling with better health care and well-being [14,15]. However, no studies have sought to examine the economic value of student counseling services provided by each university in Japan.

Hence, in an attempt to fill this gap in the literature, this study evaluated students' perceptions of the economic value of meeting with professional counselors for finding solutions to their problems. The study was designed to reveal the various factors influencing these perceptions. Such assessment of the monetary value of student counseling would be of use to university managements in deciding on potential investments and policies in this area.

Methods

Study design: contingent valuation method

This study employed the contingent valuation method (CVM) to estimate WTP for student counseling services. The CVM is a well-known method of economic valuation for estimating the value of intangibles and is widely used when performing cost-benefit analyses in an attempt to simulate a hypothetical market by conducting questionnaire-based consumer surveys. In this study, the objective of the questionnaire was to estimate participants' WTP for an intangible service based on a hypothetical scenario in which participants represent the demand and

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the researcher plays the role of the supplier. The technique of using the CVM in conjunction with WTP originated from research undertaken in the field of environmental protection [16]. Subsequently, the CVM was employed in the field of medicine, resulting in a number of CVM studies on health care evaluation [17-19].

Out of the several types of CVM such as open-ended questions, payment cards, and dichotomous choices, this study employed double-bounded dichotomous choices because of the high rate of responses, better statistical efficiency of WTP results, and absence of limitations found in other procedures [20]. In dichotomous choices, a participant responds with only "yes" or "no" answers to a specific bid presented. In double-bounded dichotomous choices, a question is asked twice and if the participant first answers "yes," the researcher then asks whether the participant tends to double the first bid. Conversely, if the participant answers "no," the researcher then presents a bid that is half the first bid.

Questionnaire

To elicit the WTP for student counseling, each participant was presented with a set of objective facts and a hypothetical situation. The facts included the average annual rates of using student counseling services, types of problems usually dealt with in student counseling, and counseling staff's qualification. In the hypothetical situation, participants were asked to imagine a situation without student counseling services and were then presented with a description of counseling services provided under that scenario. Details of the objective facts presented and hypothetical scenario used in this study are provided in the Appendix. Finally, the participants were asked how much they would be willing to pay, in addition to the tuition fees, for the university to continue providing student counseling services for one year.

Data was collected by a double-bounded dichotomous choice contingent valuation approach, using an online self-administered questionnaire. Each participant was randomly assigned one of four initial bids: JPY 2000 (approximately USD 20), JPY 4000 (approximately USD 40), JPY 6000 (approximately USD 60), and JPY 8000 (approximately USD 80). If a participant answered "yes" to the initial bid, then the researcher determined his or her willingness to pay double the initial bid. If the participant answered "no," then the researcher determined his or her willingness to pay half the initial bid. In addition, to account for external factors that might impact WTP in this study, participants were asked to provide their age, sex, grade, annual household income, and experience in using student counseling services.

Participants

Participants were expected to meet the following criteria for inclusion in the survey: they had to be university students 18 years of age or older, they had proper understanding of the Japanese language, and they had to provide online consent to answer the questionnaire. The criteria for exclusion were inability to understand the language, not being qualified to consent, answering "I am not sure" in the double-bounded dichotomous choices, and inability to understand the purpose of the questionnaire.

The sample size was determined in line with existing studies, which indicate approximately 400 participants are required in the CVM using double-bounded dichotomous choices to minimize estimation errors and to arrive at WTP conclusions with high statistical reliability [16] and an expected response rate of 10 percent or less [21]. Finally, 462 university students were included in the study.

A panel survey was conducted with previously enrolled members of a major Internet survey company in Japan in June and July 2013. To address the problems inherent in an online survey and raise the response validity level, we equipped the online questionnaire with preventive devices, such as mandatory creation of user accounts for participation, which would eliminate double replies and operational errors. The questionnaire was distributed to about 12,000 individuals of whom 903 accessed it on the survey website and 683 completed it. Participants with incomplete or untrustworthy answers were excluded. In accordance with a contract with the survey company, data delivered to the author consisted of a random sampling of 650 completed answers. Moreover, owing to ethical considerations, all participants were urged to provide informed consent before answering the questionnaire and participants who declined to respond to this request were excluded from the study.

Statistical analyses

To estimate the perceived economic value of student counseling accurately, participants who selected the option "I am not sure" were eliminated from the analysis. For checking the impact of eliminating these participants on the study outcomes, the t-test was employed for continuous data and the chi-square test was used for categorical data.

The overall WTP for student counseling services was evaluated from individual WTP using a logit model based on the random utility model. The formula used in the logit model was:

$$\text{Pr}[\text{yes}] = \frac{1}{1 + e^{-[a + b \log(\text{WTP}_i)]}}$$

Where Pr[yes] is the assenting rate; WTP_i is an individual WTP; a is the intercept; and b is the slope. As the representative value for WTP, we assigned the median value because the median WTP, which means that half of the participants approved a price, is used when considering fairness. To identify factors affecting WTP, we used a logistic regression analysis, which is used when the dependent variable varies from zero to one, such as in the case of probability. We tested the relationship between WTP and the following variables: age, sex, grade, annual household income, and present/lifetime experiences of student counseling.

The statistical software R version 3.0.1 (The R Project for Statistical Computing, <http://www.r-project.org/> website), was used for all analyses. A p-value of less than 0.05 was considered to be significant. The exchange rate was assumed to be JPY 100 for USD 1.

Results

Participants' characteristics

Of the 462 participants selected, 54.3 percent were men and participants' mean age was 20.7 years (standard deviation=1.9, range=18-30); 92 (19.9%) were freshmen; 113 (24.5%) were sophomores; 97 (21.0%) were juniors; 133 (28.8%) were seniors; and 27 (5.8%) were above the fifth grade. Other characteristics of the participants are presented in Table 1. There were no missing values, and each variable was represented in the final data set.

On comparing the analyzed and eliminated participants, it is observed that while there were significant differences in grades and annual household incomes between the two categories, there were no differences because of sex, age, and experience in using student counseling services, both in the present and over the lifetime.

		Analyzed (n = 462)	Eliminated (n = 188)	Difference	P ¹
Sex (male): n (%)		251 (54.3)	91 (48.4)	5.9	0.194
Age: mean (SD)		20.7 (1.9)	20.5 (1.7)	0.2	0.330
Grade: n (%)	Freshman	92 (19.9)	29 (15.4)	4.5	0.030
	Sophomore	113 (24.5)	45 (23.9)	0.6	
	Junior	97 (21.0)	61 (32.4)	-11.4	
	Senior	133 (28.8)	46 (24.5)	4.3	
	Above the fifth grade	27 (5.8)	7 (3.7)	2.1	
Annual household income	Low (< JPY 4 million/year)	158 (34.2)	45 (23.9)	10.3	< 0.001
	High (> JPY 4 million/year)	195 (42.2)	66 (35.1)	7.1	
	Unknown	109 (23.6)	77 (41.0)	-17.4	
Experience of student counseling (present)		37 (8.0)	14 (7.4)	0.6	0.873
Experience of student counseling (lifetime)		92 (19.9)	39 (20.7)	-0.8	0.830

1 The t-test was employed for continuous data and the chi-square test was used for categorical data.
SD = Standard Deviation

Table 1: Comparison of characteristics between analyzed and eliminated participants.

WTP for student counseling

Table 2 shows the results of bid choices. Participants with a higher bid were willing to pay relatively less for continuation of student counseling services. Based on these responses, the median WTP was estimated as JPY2,796 (USD 27.96) per year. The result of the logistic regression analysis is shown in Table 3. The analysis indicates the participants' lifetime experience of receiving student counseling had a significant effect on their WTP, while the other factors had no significant impact.

Discussion

Principal findings

The median WTP was estimated as JPY2,796 (USD 27.96) per year. The presented data reveals that participants clearly perceive the economic value of student counseling services. Such perception appears to relate to their past experience of receiving such services.

WTP for student counseling estimated in this study (JPY 2,796=USD 27.96 per year) is higher than that of the previous study [11]. Since the difference in study method makes direct comparison of results of the two studies difficult, we performed a trial calculation of the total economic value of student counseling in a year based on the results of two studies and a hypothetical situation. Provided there is a student counseling organization in universities wherein 3000 students are offered counseling services for 6 hours per day and 250 days per year, based on the result of this study, the economic value that the organization creates in one year is USD 83,880 (3000×USD 27.96). In contrast, based on the results in South Korea [11], the economic value is USD 15,330–15,810 (10.22–10.54×6×250). The previous study assessed the value of direct use of student counseling to the users of such services. This study examined not only direct use value but also indirect use value and non-use value (e.g., a sense of ease that is perceived by the fact that the organization is nearby and available at any time). In addition, the previous study estimated the value of career counseling, which is only one of the many components of student counseling. We believe these factors have caused the estimated WTP in this study to be higher than that of the previous study.

First bid	Choice								Total
	1.Approve		1.Disapprove		2.Approve		2.Disapprove		
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)		
2000 JPY (USD 20): n (%)	23 (19.8)	37 (31.9)	20 (17.2)	36 (31.0)	116				
4000 JPY (USD 40): n (%)	19 (17.0)	27 (24.1)	20 (17.9)	46 (41.1)	112				
6000 JPY (USD 60): n (%)	18 (14.0)	37 (28.7)	17 (13.2)	57 (44.2)	129				
8000 JPY (USD 80): n (%)	11 (10.5)	26 (24.8)	11 (10.5)	57 (54.3)	105				

Table 2: Results of bid choices.

		Estimate	t	P
Intercept		11.57	9.36	< 0.001
ln (Bid)		-1.27	-15.31	< 0.001
Sex	Female	-0.13	-0.72	0.473
Age		-0.07	-1.58	0.114
Annual household income	Low (<JPY 4 million/year)	-0.23	-0.96	0.337
	High (>JPY 4 million/year)	0.20	0.85	0.394
Experience of student counseling (present)		-0.03	-0.08	0.936
Experience of student counseling (lifetime)		0.64	2.51	0.012

Bold type indicates significance (P < 0.05)

Table 3: Results of logistic regression analysis (n = 462).

The results indicate the participants' lifetime experience of receiving student counseling had a significant positive effect on their WTP for student counseling services. In other words, either previous experience of counseling increases WTP, or else, students who perceived high economic value for counseling services, tend to receive student counseling. From the search design used in this study, it cannot be judged which of these two interpretations is accurate. However, this positive relationship ensures the validity of the study's result, because validity in the CVM is determined on the basis of consistency of empirical data with the theoretical proposition [22].

Previous studies indicated that participants with higher payment ability show significantly higher WTP [19,23-25]. However, this finding is not applicable in the case of counseling services intended for university/college students. Further, Choi et al indicated that participants' income is not a significant predictor of their WTP for career counseling services intended for university/college students, which is consistent with the result of this study [11]. Data collected in this study indicated that most university students do not have a complete and/or accurate estimation of their household incomes. Such flawed estimation might be the reason the results of this study differ from those of the previous studies that indicate a positive correlation between annual household income and WTP.

Limitations

There are some limitations to the present study. First, an online panel survey has some inherent biases such as coverage bias [21]. Second, although the National Oceanic and Atmospheric Administration recommended face-to-face interviews to ensure quality of response [26], a questionnaire survey was used in this study to acquire the required sample size. Ensuring the required number of responses is essential at this stage for minimizing chances of error and for arriving at valid conclusions. Moreover, face-to-face interviews could be employed in follow-up research to ensure higher response quality. Third, the generalizability of the results is more likely to be limited to Japanese university students, because of their shared cultural background. Therefore, it is likely the "culture" factor

influences the evaluation of monetary value of counseling in this study. Hence, future research should aim at exploring the monetary value of student counseling services across a wider sample range, possibly covering several countries. Finally, WTP may be affected by several other factors not examined in this study, such as subjects' knowledge about counseling and/or psychotherapy, their degree of concern about mental health, and the imagined modality of counseling (e.g., individual counseling vs. group counseling). It is necessary to consider these factors in future studies, as they might affect WTP.

Conclusions and Implications

This study makes a unique contribution to the literature by being the first to provide an empirical economic evaluation of student counseling in Japan. It calculated students' perception of the monetary value of counseling services in terms of WTP (median: JPY2,796=USD 27.96), using the CVM. In addition, this study explained the perception of value to a certain extent by considering the students' characteristics. This study thus provides important information for university administrators and policy makers who need to assess the costs and benefits of student counseling services. The results have vital practical implications for promoting and developing student counseling services, an integral component of university education, enabling students to manage stress and anxiety in the background of increasing mental health problems among student population worldwide. Moreover, this study has successfully established that counseling services provided by professional counselors are perceived by students as an important aspect of university life with real value in economic terms, and this value is set to increase as mental health issues among university and college students follow a rising trend in Japan.

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