

بناء وتقنين مقياس سلوك المواطنة الجامعية

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الملخص

يعد سلوك المواطنة الجامعية من المفاهيم والسمات التي يجب العمل على تنميتها كواحد من نواتج التعلم وأهداف البرامج الجامعية وهي جزء من المفهوم العام للمواطنة الذي يتم صقله لدى الطلبة في هذه المرحلة، الذي يعد أيضاً من مؤشرات جودة تلك البرامج الجامعية، من هنا فقد هدفت هذه الدراسة إلى بناء وتقنين مقياس سلوك المواطنة الجامعية. تكون المقياس في صورته الأولية من 50 فقرة يتم تصحيح الاجابة عنها بخمس درجات حسب تدرج ليكرت. وتم بناء صورة إلكترونية للمقياس وضعت على موقع الجامعة حيث كان عدد المستجيبين 474 من طلبة البكالوريوس، وبلغ متوسط الأداء على المقياس 154.93 بانحراف معياري 19.94. واستنادا الى التحليل العاملي بطريقة تحليل المكونات الأساسية لبنية المقياس فقد تم حذف 11 فقرة لتشبعاتها المتدنية لتتكون الصورة النهائية للمقياس من 39 فقرة. وتبين وجود أربعة عوامل أساسية: الاهتمام والتقدير وتكون من 16 فقرة، والاتجاهات نحو الجامعة وتكون من 7 فقرات، والمشاركة داخل حرم الجامعة وتكون من 8 فقرات، والالتزام الأكاديمي وتكون من 8 فقرات. وقد فسرت هذه العوامل ما مقداره 27.76 % و 11.24 % و 4.96 % و 4.60 % من التباين على التوالي، وفسرت هذه العوامل مجتمعة ما مقداره 48.5 % من التباين. وبلغت مؤشرات الثبات للمقياس بحسب معاملات كرونباخ ألفا ومعامل سيرمان براون ومعامل الثبات النصفى لغوتمان 0.90، 0.90، 0.90 على الترتيب مما يشير إلى تمتع المقياس بخصائص سيكومترية مقبولة. وأخيراً تم استخراج مستويات معايير تفسير الأداء من خلال معايير الدرجات الخام وما يقابلها من الدرجات المعيارية الزائفة والرتب المئينية.

الكلمات المفتاحية: بناء مقياس، سلوك المواطنة الجامعية، طلبة الجامعة، مرحلة البكالوريوس

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Psychometric Characteristics of the University Citizenship Behavior Scale (UCBS)

Abstract

Citizenship is a basic and very important expected outcome of the educational programs and university life span; it is often referred to as the forgotten outcome of colleges and universities. Having citizenship student's behavior developed is an indicator of programs quality assurance. Therefore, the current study aimed at developing and standardizing a scale for university citizenship behavior among students of the University of Jordan. The initial version of the scale consisted of 50 items of 5-points Likert scale format the scale was administered via online format. A sample of 474 bachelor students gave responses ($M = 154.93, SD = 19.94$). The scale showed good indicators of item effectiveness and Validity indexes. Principal Component Analysis with varimax rotation method was carried out for factorial structure analysis. The final version of the scale consisted of 39 items formulated four main factors: Care and Respect with 16 items, Attitudes Toward the University with 7 items, In Campus Engagement with 8 items, and Academic Commitment with 8 items. The variance proportion explained by these factors was 27.76%, 11.24%, 4.96% and 4.60% respectively. All four main factors interpreted 48.5% of the variance. Cronbach's alpha, Spearman-Brown and Guttman Split-half reliability coefficients were 0.91, 0.90 and 0.90 respectively. Finally, levels of raw scores and equivalent z- scores and percentile ranks derived.

Keywords: scale development, citizenship behavior scale, university students, bachelor stage

Introduction:

Citizenship can be thought of as belonging to a nation or home country\ state, which indicates a social relationship between an individual and the state. It is more than a legal form of relations; it includes the feeling of being a part who has specific rights and must be committed to certain duties.

Citizenship is a social, legal and political term. The origins of this term go back to the notion of "civic republican" founded by the ancient Greeks and Spartans. Starting with the French Revolution, citizenship is viewed as encompassing civic, political and social rights. Accordingly, the state exists in fact to protect and uphold the rights of its citizens. (Winston, 2017). A universal definition of the term "Citizenship" does not exist. Furthermore, it may have different meanings for different groups. For example, Edmonton, 2012 (as cited by Al Kahtani, 2020) defined "digital citizenship" as individual's interaction with others through digital means and resources like computers applications and Internet using text, E-mail, photos, blogs ...etc. The Political Encyclopedia (1990) defines citizenship as the individual's commitment to the duties toward the state with his rights respected and satisfied. Accordingly, the individual gives commitment and the state takes care of his rights. Al-Tall, (1987) pointed out that citizenship means love, belonging, loyalty, feeling, understanding the problems the state is facing and serving positively to solve these problems. Which means that emotions might be an important component of the citizenship concept.

Hopkins (2002) (as cited by Al-Qatawneh & Eltahir 2019) identified five major aspects of good citizenship and belonging that represent the good citizen: first, Honesty: A good citizen must be honest with others, as well as with himself or herself, to be a good citizen of their society. Second, Compassion: Compassion refers to the emotion of caring for people and for other living things. Compassion creates an emotional bond between a citizen and others. Third, Respect: Respect refers to the

citizen's self-respect, respect for the ideas of others, and respect for laws and regulations. Fourth, Responsibility includes both personal responsibility for oneself and public responsibility for one's society. It includes one's responsibility for informing oneself, one's commitment to the values of one's community, and one's responsibility and commitment to defend and protect one's homeland. Fifth, Courage: Courage is important to good citizenship because it inspires the citizen to participate in bringing about the changes required in the community, even when they might be a dangerous one.

On the other hand, Elyer and Giles (1999) suggested five elements in the development and progress of students' citizenship: values, Knowledge, skills, efficacy, and commitment. Therefore, schools will not fulfill their duty to society unless they help their students understand the nature of the problems and responsibilities of the society in which they must live and which they should help govern. In fact, preparing students for their civic lives is a goal along many other goals for educational system in deferent levels of schools and higher education.

Physics- faculty- handbook at Kent State University pointed out that "A Faculty member's contributions as a university citizen include service to the Department, the Campus, the College, and the University. The Department expects each Faculty to accept shared responsibility for the maintenance and development of Departmental programs and to productively carry out associated administrative tasks that may be assigned ... Accordingly, Being an active and useful citizen of the Department, Campus, College and University is expected and valued; however, service of any magnitude cannot be considered more important than a candidate's research and other scholarly activity and instructional responsibilities". The term "university citizen" targeted mainly faculty members. This term was also used for President's Award for University Citizenship at the University of Missouri, again the target was

faculty members and employee but not students. (President's Award for University Citizenship,2024)

Based on this conceptualization and utilizing the notion of generalization, citizenship can be thought of as a multi-level concept. It can be used in a general domain down to a more specific one. For example, global citizen may refer to individual's feeling of belonging to the globe and behave positively to solve global problems. State citizenship may refer to an individual's feeling of belonging to the state and behaving positively to solve state problems. Institutional or organizational citizenship, may refer to individual's willingness to handle extra duties, feeling of belonging to company and behave positively to solve problems of that company (Nuchchamon, et,al, 2020). Hammer et al. (2019) pointed to the term "Faculty citizenship" and define it as a pattern of behaviors by faculty members that promotes the welfare of the school or college. Finally, University Citizenship, may refer to individual's feeling of belonging to the university and commit and behave positively to handle required duties, achieve his goals and rights and help enhancing university.

Although terms like Citizenship, National Citizenship, Organizational Citizenship and Global Citizenship are common, terms Faculty Citizenship or University Citizenship were not used very common. At all levels, citizenship is that kind of behavior which is extremely important for effectiveness and success. However, in the educational context, where the roles of schools and universities affect the future of human resources, it is much more sensitive and important. This is why establishing a good citizen is one of the most common important educational systems outcomes. At the university level, students are prepared for a new era as completely responsible members of the productive community. This means that universities must make sure that students were prepared through different academic and non-academic programs and activities for good citizenship and being evaluated for that.

A number of research have considered the term "Citizenship" in different contexts; national citizenship behavior (Aljabbouri, 2010) or organizational citizenship behavior (Nuchchamon, et,al, 2020; Olowookere & Adejuwon (2015)) or the national citizenship among university students (Alcheheb & Nisse (2019). but not much of that research had considered the term "university citizenship' targeting students.

Development of citizenship scales or measurement instruments was not widely targeted in research; Jaradat (2010) developed a citizenship behavior scale for high school students. U-thaiwat et al. (2017) research aimed at developing a newly suggested University citizenship Behavior measure among Thai and U.S. students. The exploratory sequential mixed methods design was employed along with qualitative interview and quantitative methos of collecting information and required data form a sample of 12 students form Thai university and 7 students from U.S. provided students must be enrolled in volunteer groups and recommended by teachers. The results showed that 7 dimensions and the definition were clarified for the proposed measure. Theses factors were Altrusim, Civic virtue, Conscientiousness, Courtesy, Sportsmanship, Enthusiasm and Inter-personal relations.

in addition, Chen and Carey (2009) have developed an educational citizenship behavior scale. Liu,Huang and Chen (n,d) pointed out that the majority of empirical studies on organizational citizenship behavior were based on American values. Morais & Ogden (2010) developed a Global Citizen Scale which handles a broad citizenship idea. At the end pf February 2009, 126 usable questionnaires and 222 questionnaires were collected from students enrolled in 11 embedded courses and 11 matched courses in what is known as *embedded programs* in the United States respectively.

However, this concept of citizenship whether connected with terms like Organizational, faculty, or university is a culture sensitive. Therefore, there is a need for conducting research studies in other cultures and different contexts. The importance of the term "university citizenship" comes from the fact that it should be emphasized as an important outcome of higher education. Therefore, this study aimed at expanding on the term "university citizenship" by investigation the psychometrics characteristics of the university Citizenship behavior Scale (UCBS) in Jordan.

Statement of the Problem:

One of the important – mostly neglected – outcomes of the higher education university programs is to develop and polish the concept of university citizenship as a pre-requisite of acquiring the more general state or country citizenship concept. Despite that students with strong believes of their university citizenship are expected to have better adaptivity skills and hence better performance, but quality assurance investigations never asked nor measured the extent to which university programs contributed to the development of belonging and citizenship concept of students. In addition, searching electronic databases like ERIC and EBSCO using the term (university and citizenship) in title revealed 5 entries which means that not much attention has been given to this important educational outcome. University citizenship measurement tests or scales were not found for Arabic context. Therefore, this study comes to develop the University Citizenship behavior Scale (UCBS) and to investigate its psychometric characteristics in Jordan. Specifically, this study was intended to answer the following questions:

First, what is the factor structure of the UCBS?

Second, what are the indicators of validity and reliability of the UCBS?

Third, what are the norms defining citizenship levels among university students?

Limitations of the Study:

There are several factors that limit the scope of this study. First, the data are self-reported by students and centered exclusively on their personal perceptions of item content and the concept of university citizenship. Therefore, the extent to which the subjects exhibit these citizenship indicators is not directly measured. Second, due to Corona Pandemic the data was collected through electronic means but not face to face which means that the level of seriousness was not noticed nor assured.

Definitions of Terms:

The term "University citizenship" refers to students' willingness to handle academic and non-academic duties and activities, feeling of belonging and behave positively toward his university, it is measured by student's score on the UCBS used in this study.

Methodology:**Research design:**

This is a descriptive study aims at investigating the psychometric characteristics of the University Citizenship Scale in Jordanian context.

Participants and Data Collection:

Bachelor students of different academic levels at the University of Jordan were asked to give responses to items of an electronic university citizenship scale form. Because of the Korona Pandemic and not having in campus teaching activities, data were collected via electronic means. For data collection purposes, the URL of the scale was loaded on the official Website of the University of Jordan. Settings were set to ensure that any student could participate using his own university ID and password to respond just one time. A total of 474 students gives responses to the scale items during October 2020/2021 academic year.

Scale Development:

A content analysis process took place in one graduate course with 28 students at the master level of educational measurement program. Students were asked to give examples of different behaviors expected from any student who feels that he belongs to and loves the university and considers himself as a citizen in this university. Citizenship was introduced to the students as the feeling of belonging to a place in which you have rights and obligations. Accordingly, an initial pool of 82 items was collected. Rephrasing, refining and examining redundancy summarized the items to 52 items. As a trial of examining for face or logical validity, these items were reviewed by a panel of 6 expert judges faculty members who advise to delete two items and rephrase some other items. The final version of the scale consisted of 50 items of 5-likert scale type. Responses ranged between 1 = strongly disagree to 5= strongly agree.

Analysis:

The process of data analysis took two main steps; In step 1, participants' responses were coded as follows: (strongly disagree=1, disagree =2, undecided = 3, agree = 4, strongly agree = 5). In step 2, using the Statistical Package for Social Sciences (SPSS) data were analyzed to find answers for the questions of the study. For the first question, both exploratory and confirmatory Principal Component Analysis (PCA) procedures were employed. For the second question, item-factor and item-total correlations were computed along with reliability indicators such as Cronbach's Alpha, Spearman-Brown and Guttman Split-Half coefficients, and for the third question, the percentiles 25th, 50th and 75th were set as cut points for low, medium and high levels of the university citizenship among students.

Results:**Factor Structure and factorial Validity:**

To answer the first question in this study which asks about the factor structure of the UCBS, factor analysis was conducted to examine a number of factors formulating UCBS structure. Using factor analysis requires four basic stages: examining for the appropriateness of using FA, checking for initial factors, factor rotation process, and labelling final refined factors or components. For examining the appropriateness of using FA, two main measures were used: the Kaiser-Meyer-Olkin Measure of Sampling Adequacy and the Bartlett's Test of Sphericity. Table 1 shows both measures.

Table (1): Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity measures

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.925
Bartlett's Test of Sphericity	Approx. Chi-Square 8777.462
	df 780
	Sig. .000

Table 1 presented Kaiser's measure of sampling adequacy, which is the ratio of the sum of squared correlations to the sum of squared correlations plus sum of squared partial correlations. According to Tabachnick & Fidell (1989), values of 0.6 and above are required for good factor analysis. Table 1 indicated that KMO index equals 0.92 which is an indication that the sample of 475 responses used in this study is adequate for factor analysis purposes. On the other hand, Bartlett's test of sphericity was used to test the hypothesis that the correlations in the correlation matrix are zero. Results revealed a significant large value of Bartlett's test of sphericity value ($\chi^2(780) = 8777.4, p < .001$), which means that the correlations

were sufficiently large, or the correlation coefficients matrix is not an identity, and this matrix is appropriate to produce different factors.

Exploratory PCA has revealed 10 different factors with initial eigenvalues more than one. However, only four factors were having three high loaded items or more. Therefore, another confirmatory principal component analysis with only four factors determined was considered. Initial eigenvalues and percent of variance explained by each factor findings were presented in table 2.

Table (2): Initial eigenvalues and percent of variance explained by each factor

Total Variance Explained									
Compon ent	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Tot al	% of Varianc e	Cumulati ve %	Tota l	% of Varianc e	Cumulati ve %	Total	% of Varianc e	Cumulat ive %
1	11.1	27.76	27.76	11.10	27.76	27.76	7.55	18.88	18.88
2	4.49	11.24	39.00	4.49	11.24	39.00	4.79	11.98	30.86
3	1.98	4.96	43.97	1.98	4.96	43.97	3.96	9.89	40.76
4	1.84	4.60	48.57	1.84	4.60	48.57	3.12	7.80	48.57

Extraction Method: Principal Component Analysis.

Table 2 indicated that the first factor accounted for 27.76% of the total variance followed by the second, third and fourth factor accounted for 11.42%, 4.96% and 4.6% of the total variance respectively. All these four factors accounted for 48.57% of the variance. Another criterion to examine the number of extracted factors is to check the scree plot as shown by figure 1.

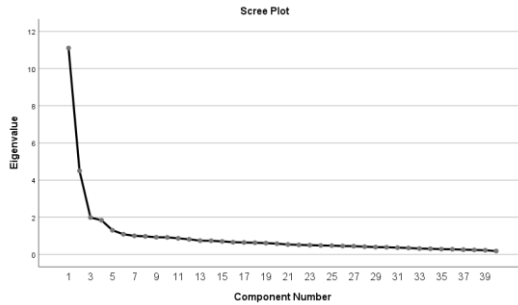


Figure (1): Scree plot of factor loading.

To obtain sufficient factor structure solution, the Varimax with Kaiser Normalization rotation method was employed to ensure that each item loaded significantly and distinctly on one of the four components to which it belongs more. Loadings of 0.3 or more was set as a criterion for retaining items within factors. Results of the rotated component matrix is presented in table 3.

Table (3): Rotated Component Matrix (item – factor loadings)

items	Component			
	1	2	3	4
item39	.788			
item30	.752			
item45	.738			
item37	.718			
item18	.715			
item35	.699			
item40	.695			
item27	.689			
item36	.680			
item28	.632			
item20	.617			
item26	.590			
item50	.548			

item32	.489
item29	.471
item4	.370
item10	.766
item13	.763
item14	.747

Table 3 (continued)

Component				
items	1	2	3	4
item3		.746		
item41		.740		
item17		.675		
item15		.534		
item9			.771	
item43			.711	
item8			.711	
item44			.670	
item1			.630	
item42			.591	
item46			.495	
item19			.383	
item5				.701
item6				.675
item25				.521
item7				.506
item12				.499
item24				.489
item2				.453
item11				.372

With an initial 50 items analyzed for PCA, and after the rotation process, 11 items were deleted for low loadings or inconsistency with the suggested component theme or concept. The final version of the UCS had 39 items loaded on four factors. As presented by table 3, the results of factor rotation showed that the first factor was formulated by 16 items with item-factor loadings ranged between 0.37 – 0.78. the second factor consisted of 7 items with item – factor loadings ranged between 0.53 – 0.76. whereas 8 items formulated the third factor with loadings ranged between 0.38 – 0.77. finally, the fourth factor consisted of 8 items with loadings ranged between 0.37 – 0.70.

For factor labeling purposes, all items loaded on each factor were examined for a common theme and it was found that items of the first factor tend to argue the notion of care and respect. The second factor items were related more to attitudes toward the university. Moreover, items of the third factor have focused on the idea of in campus participation or engagement. Finally, items of the fourth factor presented the idea of academic oriented behavior or commitment. Therefore, it is suggested that (care and respect, attitudes toward the university, in campus engagement, and academic commitment) are appropriate labeling for these factors. Correlations between all four factors were shown in table 4.

Table (4): Correlation coefficients between the four factors of the UCS

	Care and respect	Attitudes toward university	In campus engagement	Academic commitment
Attitudes toward university	.496**			
In campus engagement	.416**	.516**		
Academic commitment	.258**	.547**	.432**	
Totals cores	.758**	.832**	.738**	.717**

As indicated by table 4, intercorrelation coefficients between the factors were high coefficients values, but high with the total scale score. Item-factor correlation coefficients as a discrimination index were also computed along with item-total score correlations for each factor, the results were shown by appendix A.

For more verification of scale validity, the discrimination index as the item- factor correlation was computed for all items along with item – total scale score correlation for all items. Appendix A showed for factor 1 that item-factor correlations ranged between (0.50 - 0.77), while the item-total score correlations ranged between (0.39 - 0.75). The correlation coefficient between the factor total score and the scale total score was 0.75. For factor 2, appendix A showed that item-factor correlations ranged between (0.69 - 0.82), while the item-total score correlations ranged between (0.60 - 0.68). The correlation coefficient between the factor total score and the scale total score was 0.83. Moreover, appendix A showed for factor 3 that item-factor correlations ranged between (0.46 - 0.77), while the item-total score correlations ranged between (0.42 - 0.62). The correlation coefficient between the factor total score and the scale total score was 0.71. Finally, appendix A showed for factor 4 that item-factor correlations ranged between (0.41 - 0.69), while the item-total score correlations ranged between (0.29 - 0.58). The correlation coefficient between the factor total score and the scale total score was 0.73.

Scale Reliability:

To examine the reliability of UCBS different indexes were investigated, these indexes were presented in table 5.

Table (5): Reliability indexes for factor1, factor2, factor3, factor4, and the total score of the UCBS:

	Cronbach's Alpha	Spearman-Brown Coefficient Unequal Length	Guttman Split-Half Coefficient
Care and respect	0.911	0.902	0.901
Attitudes toward the university	0.903	0.893	0.863
In campus engagement	0.758	0.678	0.675
Academic commitment	0.826	0.752	0.751
Total scale	0.924	0.853	0.851

Looking at table 5 showing that Cronbach's Alpha factor reliability coefficients ranged between 0.75 – 0.91 and get a value of 0.92 for the total scale. The Spearman-Brown Coefficient of reliability ranged between 0.67 – 0.90 and got a value of 0.85 for the total scale. Finlay, Guttman Split-Half Coefficient of reliability ranged between 0.67 – 0.90 and get a value of 0.85 for the total scale. Out of the initial 50 item pool analyzed for PCA, 11 items were deleted for low loading or logical inconsistency with the suggested factor theme or concept. The final version of the UCBS consisted of 39 items distributed to four main components or factors. Appendix A presented all items along with their correlation coefficients with the factor on one hand, and with the total score on the other hand.

Norms:

Generally, scores on different psychological tests are mostly interpreted by reference to the norm that represents the test performance on the standardization sample. Basically, one of the main purposes of is to indicate the individual's relative

standing in the normative sample and thus allow evaluation of his/her performance in reference to other persons. For the UCBS the descriptive statistics were computed and presented by table 6.

Table6: *Total test score descriptive statistics*

Descriptives				Statistic	Std. Error
totalscore	Mean			154.93	.91
	95% Confidence Interval for Mean	Lower Bound		153.13	
		Upper Bound		156.73	
	5% Trimmed Mean			155.53	
	Median			156.00	
	Variance			397.95	
	Std. Deviation			19.94	
	Minimum			53.00	
	Maximum			195.00	
	Range			142.00	
	Interquartile Range			27.25	

As presented by table 6, scores were distributed with an average of 154.93 and a standard deviation of 19.94. Testing for normality revealed that test scores were normally distributed as indicated by Kolomogorov-Smirnov (K-S=0.052, P=0.07). Therefore, different levels of scores and norms of university citizenship scale scores can be identified for five main levels as table 7 indicates.

Table 7: *Description of row score levels according to their equivalent norms*

Raw score	z-score	Percentile Rank (Area under z) *(100)	description
39 – 112	-3 to -1.92	1 to 2.6	poor

113 - 134	-1.93 to -0.96	2.7 to 15.4	unacceptable
135 - 175	-.97 to 1.06	15.5 to 84.4	acceptable
176 – 188	1.07 to 1.97	84.5 to 97.4	Very good
189 – 195.	1.98 to 3	97.5 to 99.9	excellent

Discussion and Conclusions:

This study tried to expand on “citizenship” notion by emphasizing on “university citizenship” as a sub-concept. The university citizenship in the Jordanian context is a composite concept formulated by four main dimensions: care and respect, attitudes toward university, in campus participation (engagement) and academic oriented behavior (commitment). This four-dimension model is considered adequate and valid scale to measure university citizenship. However, at the time of data collection, students were not enrolled full time courses in campus, but courses were given partially in campus and large group activities were not allowed because of Corona Pandemic. Therefore, more research probably needed to assure the stability of this four-dimension-model considering full time enrolment and large samples. Finally, having students with high degrees of feeling and behavior of university citizenship means that the university succeeded in different ways to achieve goals.

Recommendations:

This study was carried out during the Corona Pandemic so data was collected via electronically, so it is recommended that another study could consider face to face data collection. On the other hand, this scale can be used as an indicator of the extent of which the University Citizenship concept was successfully developed among university students was achieved as one of the important outcomes should be achieved and can serve as a good quality assurance indicator. Furthermore, this scale could be refined and redeveloped to include more items and more dimensions,

and probably having new similar scales for faculty citizenship would be a good idea for future suggested research.

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Appendix A. Item- factor correlation and item-total score correlation indices:

Factor 1: Care and Respect		Factor 1	Total scale score
4	I listen to other views of points even if not consistent with mine in order to expand my knowledge	.504**	.485**
18	I am very much interested in clean campus	.663**	.412**
20	I give the chance for others to participate in class	.591**	.397**
26	I always keep dressed well before lectures	.614**	.519**
27	I always take instructor's permission if before talking or leaving the lecture	.732**	.581**
28	I return borrowed books to the library in time to give a chance to other students to borrow	.645**	.414**
29	If asked by security to present my ID, I'll do it easily	.574**	.447**
30	I choose my words and talk to my teachers politely	.765**	.559**
32	Whenever something bad happened to me I do nothing before	.601**	.523**

	clarifying the situation		
35	I will be happy helping any colleague	.691**	.531**
36	I feel comfortable when sharing my notes and learning expertise with my classmates	.697**	.543**
37	I feel bad about anyone destroying university properties	.716**	.480**
39	For me, university properties are for all, and I deal with it carefully	.770**	.505**
40	I feel bad toward any actions abusing the campus or cause bad reputation (like students fighting)	.705**	.497**
45	I follow university rules and regulations because the right is to do so	.750**	.547**
50	I respect university rules and regulations because it organizes the relationship between student	.641**	.576**
	Total factor score	1	.758**
Factor 2: Attitudes toward university		Factor 2	Total scale score
3	I am eager to study and learn in this university	.778**	.602**
10	I feel proud when I tell others about this university which I study in	.800**	.613**
13	I feel bad if I heard somebody talking badly about my university	.817**	.649**
14	When somebody criticizes my university, I defend it and focus on positives	.822**	.669**
15	I like to know more about the university facilities, services and activities	.698**	.610**
17	Whenever asked about the university, I focus on positive aspects	.792**	.689**
41	I feel very happy being in this university	.816**	.682**
	Total factor score	1	.832**
Factor 3: In Campus Participation (Engagement)			
1	I am always ready to join university clubs for new expertise	.622**	.425**
8	I do participate in one club at the university at least	.701**	.369**

Appendix A. (continued):

9	I participate in different activities to make the university a better place	.775**	.478**
19	I do not hesitate to talk freely during discussion university wide	.467**	.467**
42	I am willing to join any activity that helps marketing a good reputation of the university	.694**	.627**
43	I do participate in different activities in campus even if not related to my major	.737**	.488**
44	I do participate in different activities in campus which related to my major	.720**	.547**
46	I try to spend most of my day in campus	.619**	.472**
	Total factor score	1	.717**
Factor 4: Academic Oriented Behavior (Commitment)		Factor 4	Total scale score
2	If not understanding a specific topic I search other sources to understand	.414**	.294**
5	I make sure to prepare well before presenting any topic	.695**	.490**
6	I always take notes from my teachers	.607**	.420**
7	If I missed a note, I retake it from the teacher or a colleague	.516**	.401**
11	I do my best to achieve my goals because graduation is very important to me	.435**	.586**
12	I am satisfied with requirements and my academic related work	.622**	.535**
24	If I can't go to class, I tell the instructor or classmates in advance	.621**	.430**
25	Even if I do not agree with a teacher's sayings or actions, I do not talk about him in a bad way	.655**	.574**
	Total factor score	1	.738**