Testing the Mediating Effect of the Quality of College Life in the Student Satisfaction and Student Loyalty Relationship

Grace B. Yu · Ji-Hyun Kim

Abstract This study tests the mediating effect of the quality of college life (QCL) in the student satisfaction and student loyalty relationship. QCL refers to the degree of need satisfaction and the experiences that create a positive affect throughout college life. The QCL of students is conceptualized as a higher order construct that is composed of need satisfaction and affect balance. It has been hypothesized that student satisfaction with university services has a significant impact on QCL, which in turn positively influences student loyalty. The results from the survey of 228 college students largely supported the model. Both the managerial and policy implications of this study are discussed.

Keywords Quality of college life (QCL) · Involvement with college life ·
Student loyalty · Student satisfaction

Introduction

Universities are placing a greater emphasis on student loyalty as a source of competitive advantage due to the increase in competition among universities (Lam et al. 2004). Student loyalty is important to universities because it provides a secure financial basis for university activities. Loyal students are more likely to identify with and have a strong emotional attachment to their university (Cardador and Pratt 2006). These students create positive word-of-mouth (Reicheld 2003; Verhoef et al. 2002) and have a strong desire to serve their university even after they have graduated by contributing donations (Oliver 1999; Reicheld 2003; Russel-Bennett et al. 2007).

G. B. Yu (✉) · J.-H. Kim
Department of Marketing, Yonsei University, Seoul, South Korea
e-mail: byunghee_00@hanmail.net

J.-H. Kim
e-mail: rose4170@hanmail.net

It has been widely accepted that student satisfaction with university services has a positive impact on student loyalty (Dick and Basu 1994; Gustafsson et al. 2005; Oliver 1999). Students' loyalty to their institutions is formed by a set of experiences that accumulate over time at the university, and it is important to measure students' overall college experience.

A student's overall evaluation of his or her college experience can be captured through a construct called the quality of college life (QCL). QCL refers to the degree of need satisfaction and the experiences that create positive emotions throughout the student's college life. In other words, QCL is the degree to which individuals judge the overall quality of their college life as a whole in a favorable way (Sirgy et al. 2007). It should be noted that QCL captures both the cognitive evaluation of the college life and the affective experiences that occur throughout the time spent at the college. The cognitive component refers to the degree of need satisfaction from the university life, while the affective component refers to the frequency of the number of positively affecting experiences throughout the college life (Campbell et al. 1976; Diener 1994).

While it has been concluded that QCL has a positive influence on the overall quality of life or life satisfaction (Sirgy et al. 2007), the exact role that QCL has in creating student loyalty is less clear. The following questions remain: Does QCL mediate the relationship between student satisfaction and student loyalty? What are some antecedents and consequences of QCL? In order to provide an answer to these questions, this study develops and tests a model of QCL in a nomological network. More specifically, this study focuses on the mediating role of QCL in the relationship of student satisfaction and student loyalty. We first test the mediating role of QCL in the student satisfaction and student loyalty relationship and then further examine the possible moderation effect of student involvement with college life in forming QCL.

By clearly identifying the role of QCL in forming student loyalty, this study will provide university managers with practical guidelines for ways to effectively enhance student loyalty. In addition, a better understanding of the key factors that affect the QCL of students will help university managers allocate resources effectively in order to maximize their students' QCL.

This paper proceeds as follows. First, we discuss the mediated QCL effect of student satisfaction on student loyalty. We then present the moderation effect of student involvement on the student satisfaction and QCL relationship. Finally, the method and study results are discussed as well as the managerial implications.

Conceptual Development

Figure 1 shows the conceptual model of our study. The model posits that students' satisfaction with education services, administrative services, and facilities has a positive influence on QCL. The model also posits that the QCL of students has a positive influence on student loyalty.

QCL

QCL refers to the degree of need satisfaction and positively affecting experiences throughout college life. QCL is the degree to which individuals judge the overall
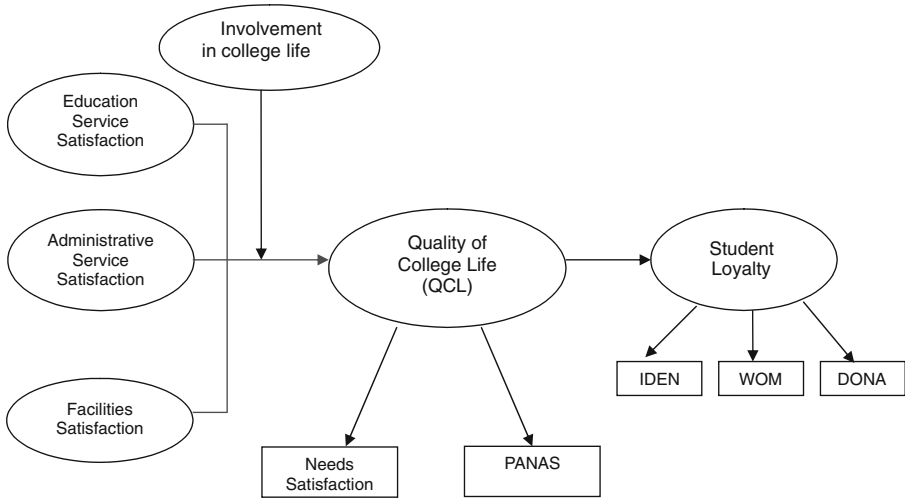
Fig. 1 Conceptual Model. Construct abbreviations: *PANAS*=Experience of Positive and Negative Affects, *IDEN*=Identification, *WOM*=Word of Mouth, *DONA*=Donation Intention

quality of their college life as a whole in a favorable way (Sirgy et al. 2007). QCL is different from the quality of life (QOL) because it is a sub-domain of QOL (Sirgy et al. 2007). QOL refers to the degree to which an individual judges the overall quality of his or her life as a whole in a favorable way (Venhooven 1984).

We conceptualized QCL as a composite of the overall need satisfaction and affective balance with college life. Based on the bottom-up spillover model (Andrews and Withey 1976), one can argue that the QCL vertically spills over to the super-ordinate life domain or QOL. QCL is defined as a composite of the cognitive component and the affective component and is conceptualized as follows.

$$Quality\ of\ college\ life\ (QCL) = [needs\ satisfaction\ in\ college\ life + (PA - NA)]/2$$

PA   positive affect experienced in the college life domain
NA   negative affect experienced in the college life domain

Cognitive QCL The cognitive component of QCL refers to the global assessment of one's college life according to one's chosen criteria (Diener and Emmons 1984). The cognitive component of QCL reflects the conceptualization of QCL in terms of the satisfaction of needs (Sirgy 1986). The cognitive component of QCL includes satisfaction with health and safety needs, economic and family needs, social needs, self-esteem needs, self-actualization needs, knowledge needs, and aesthetics needs (Sirgy et al. 2007). These need dimensions are based on the need hierarchy model.

Affective QCL The affective component of QCL reflects the difference between the positive affect and the negative affect that may have occurred in the past several months (Brandburn 1969; Diener et al. 1995).

Respondents of the survey were asked their overall feeling of the past 3 to 6months of their college life, since the experiences that occur during this period of time have a significant influence on their perceived well being (Suh et al. 1996). Positive affect (PA) includes such feelings as enthusiastic, interested, determined, excited, inspired, alert, active, strong, proud, and attentive. Negative affect (NA) includes the feelings of being scared, afraid, upset, distressed, jittery, nervous, ashamed, guilty, irritable, and hostile (Brandburn 1969; Diener et al. 1995; Plutchick 2003). The affective component of QCL is calculated by taking the difference between the PA and the NA (Diener et al. 1995).

Studies have shown that negative affect, positive affect, and need satisfaction are all conceptually distinct from one another and are empirically separable (Lucas et al. 1996). We conceptualize the QCL as a composite of both the cognitive component and the affective component. Specifically, we measured the QCL as the degree to which students have a needs satisfaction from their college life domain and the degree to which students experience both positive and negative affects during their college life. For the affective component, we used the affect balance, which is the difference between the frequency of the positive affect experience and the frequency of the negative affect experience (Watson et al. 1988). We focused on the frequency of emotions rather than the intensity of the emotions, because previous studies have found that the frequency of the emotional experience is more important in forming the overall subjective well being (e.g., Diener et al. 1991).

Student Loyalty

Student loyalty refers to a positive cognitive-emotive attitude towards the institution, which in turn provides the underlying motivation for a student's behavior (Hennig-Thurau et al. 2001; Verhoef et al. 2002). Student loyalty is a function of the students' commitment toward an institution (Tinto 1993). Student loyalty can be defined as psychological attachment that students have to their universities based on their feelings of identification and affiliation (Verhoef et al. 2002). This includes a student's intention to donate to their university not as a result of their financial situation or in consideration of the benefits of donating, but because of their feelings of identification with or attachment to college (Verhoef et al. 2002). In this study, we conceptualize student loyalty as a higher order construct composed of identification, the intention to provide positive word of mouth, and the intention to donate to the university.

Identification When students have a high QCL, they are likely to identify with their college (Hennig-Thurau et al. 2001; Mael and Ashforth 1992). This is because when the QCL is high, the students are more likely to perceive their college as attractive and thus identify with its image (Bhattacharya and Sen 2003; Brewer 1991; Tajfel and Turner 1985).

We posit that when students have a high QCL while attending their college, they tend to perceive the identity of the college as attractive, which will increase the student's identification with the college. This perceived identification increases their commitment to their own university (Hennig-Thurau et al. 2001; Verhoef et al. 2002).

Word-of-Mouth Word-of-mouth is the interpersonal communication among members of a reference group (Arnette et al. 2003; Assael 2004). Word-of-mouth communication includes referral behaviors of how people share their positive or negative experiences regarding a particular product (Arnett et al. 2003). Word-of-mouth communication is reliable because it is not directly related to the consumer's self interest (Anderson et al. 1994). Word-of-mouth is also an effective means of enhancing a firm's long-term financial performance (Reichheld 2003).

We posit that the QCL of students has a positive influence on the student's positive word-of-mouth. When students are satisfied with and are happy about their college life, or in other words when their QCL is high, then the students are more likely to make positive references when referring to their college (Hall and Stamp 2003; Hennig-Thurau et al. 2001; Verhoef et al. 2002).

Donation Intentions When students are highly loyal to their university, they are more likely to make donations to their college. Donation to the university is possible since loyal students strongly identify with their university (Bhattacharya and Sen 2003; Mael and Ashforth 1992).

When students have a high QCL, they are likely to identify themselves with their university. These feelings of identification are likely to initiate their intention to make future donations (Callero 1985). These feelings also motivate students to generate positive word-of-mouth regarding their university. Based on the discussion, we propose the following:

H1: Quality of College Life has a positive impact on Student Loyalty.

Satisfaction with College Services and QCL

Satisfaction within a life domain is influenced by a person's satisfaction with various services. For example, satisfaction with a community is influenced by satisfaction with the various services provided by the community (Sirgy et al. 2000). Satisfaction with college life is also influenced by the various services provided by the university (Sirgy et al. 2007).

We posit that the QCL is influenced by the various aspects of college services. These college services can be classified in terms of educational services (professors and lectures), administrative services (services from the supporting staff), and facility services (classrooms and other facilities; Astin 1993; Chadwick and Ward 1987; Ng 2005; Pate 1990; Simpson and Siguaw 2000).

Sirgy et al. (2007) found that the students' satisfaction with their academic aspects, social aspects, and facilities all have a significant influence on the QCL. That is, the QCL as a life domain is influenced by the satisfaction with specific sub-domains. Based on this discussion, we propose the following.

H2: Student satisfaction with university services has a positive impact on Quality of College Life.

H2a: Satisfaction with *educational service* has a positive impact on QCL
H2b: Satisfaction with *administrative service* has a positive impact on QCL
H2c: Satisfaction with *university facilities* has a positive impact on QCL

The Mediation Effect of the QCL between Student Satisfaction and the QCL

We posit that student satisfaction with university services has a positive impact on student loyalty and that it is mediated by the QCL. When students are satisfied with their educational services, administrative services, and university facilities, the students are more likely to have a high degree of need satisfaction and positive affect from their college life (or high QCL). A cumulative experience of service satisfaction at the university over an extended period of time is likely to increase students' QCL (Pilcher 1998; Sirgy et al. 2007). As noted before, when the QCL is high, one can assume that the students are likely to increase their student loyalty (Hennig-Thurau et al. 2001). That is, an increase in QCL increases students' feelings of identification with their university in generating positive word-of-mouth and in their intention to make donations.

> H3: Student satisfaction with university services has a positive impact on student loyalty, which is mediated by the QCL.

> H3a: Satisfaction with *educational service* has a positive impact on student loyalty, which is mediated by the QCL
> H3b: Satisfaction with *administrative service* has a positive impact on student loyalty, which is mediated by the QCL
> H3c: Satisfaction with *university facilities* has a positive impact on student loyalty, which is mediated by the QCL

The Moderating Role of Involvement with College Life

When students are highly involved in the college life domain, student satisfaction is likely to considerably affect the students' perceptions of QCL (Sirgy et al. 2006; Sirgy and Lee 2006). When students are satisfied with educational services, administrative services, and the facilities of their university, then the feeling of satisfaction greatly affects their perception of need satisfaction and their positive affect, thereby enhancing their perception of their own QCL.

The degree of involvement with college life influences the degree of spillover from the student satisfaction to the QCL (Pilcher 1998; Sirgy et al. 2007). According to the bottom up spillover theory, the satisfaction from concrete events spill over to life domains (Diener 1984; Sirgy 2002). The degree of the affect spillover is influenced by the student's involvement with the domain (Lee and Sirgy 1995; Sirgy et al. 1998). When students are highly involved in their college life, the degree of spillover from the satisfaction with their college life to QCL is likely to be greater (Sirgy et al. 2006; Sirgy and Lee 2006). When they care less about their college life, then the students' satisfaction with their university is less likely to spill over to the perception of QCL. Based on this discussion, we propose the following:

> H4: The effect of student satisfaction with university services on the perception of QCL is likely to be greater when students are highly involved in their college life than when they are less involved.

H4a: The effect of student satisfaction with *educational services* on the perception of QCL is likely to be greater when students are highly involved with their college life than when they are less involved.

H4b: The effect of student satisfaction with *administrative services* on the perception of QCL is likely to be greater when students are highly involved with their college life than when they are less involved.

H4c: The effect of student satisfaction with *university facilities* on the perception of QCL is likely to be greater when students are highly involved with their college life than when they are less involved.

Method

Sampling

In order to test the model of this study, we conducted a survey with undergraduate college students who were taking business courses in Korea. We randomly selected 269 respondents from the student directory, and a total of 228 respondents provided complete and usable data. The respondents were mostly in their twenties and consisted of 128 men (56.1%) and 110 women (45.9%). In addition, more than 99% of the respondents had at least 1year of college experience, and 53.8% had more than 2years of experience.

Measurement

Quality of College Life QCL was defined as the overall feeling of satisfaction that students have of their life experiences while in college (Sirgy et al. 2007). In this study, the QCL is conceptualized and measured by a composite of cognitive QCL (needs satisfaction in college) and affective QCL (positive and negative affect in college). Specifically, we adapted the Quality of Work Life measurement, which is a method of measuring cognitive QCL, from Sirgy et al. (2001). The cognitive QCL scale is conceptualized as a summation of satisfaction of seven different needs-based categories: (1) health and safety needs, (2) economic and family needs, (3) social needs, (4) self-esteem needs, (5) actualization needs, (6) knowledge needs, and (7) aesthetics needs (see "Appendix" for the scale items).

The affective QCL is measured by using the Intensity and Time Affect Scale (Diener et al. 1995). For this scale, the respondents are asked to comment on their overall feelings on what they may have experienced during the past 3 to 6months of their college life. This is because one's perceived well-being is significantly influenced by recent experiences that have occurred within a 6-month time frame (Suh et al. 1996). This scale was designed to tap "the extent to which students experience eight kinds of positive emotions and 16 negative ones". A seven-point Likert scale (1 = *Never* to 7 = *Always*) was used. Previous studies have found that the positive affect and negative affect have a low correlation and that they have an independent influence on the overall quality of life (Brandburn 1969). Affective QCL is measured by subtracting the negative affect from the positive affect.

Satisfaction with College Services Satisfaction with college services is conceptualized by having three sub-domains: educational services, administrative services, and facilities. The measures of satisfaction with college services were adapted from previous studies (Astin 1993; Simpson and Siguaw 2000).

Satisfaction with educational services is composed of satisfaction with the courses, the instructors, and the overall educational services that are provided by the university. The measurement items for this construct include "I am satisfied with the educational services that are provided by my university/college". The scale was determined to be reliable ($\alpha = 0.893$, $\rho = 0.905$). The results of the confirmatory factor analysis for the educational services scale indicate that this formative measurement scale provided a good fit to the data [$\chi^2 = 9.603$ $p = .00$, $df = 4$, GFI = 0.983, CFI = 0.992, NFI = 0.986, RMSEA = 0.082].

Satisfaction with administrative services ($\alpha = 0.816$, $\rho = 0.831$) is composed of the satisfaction with the core administrative services, the peripheral administrative services, the attitude of the service provider, and the overall administrative services that are provided by the university. The measurement items for this construct include "Administrative services provided by my university/college are helpful to my life as a student." The formative administrative services scale provided a good fit to the data [$\chi^2 = 8.789$, $p = .00$, $df = 6$, GFI = 0.988, CFI = 0.992, NFI = 0.977, RMSEA = 0.043].

Satisfaction with the facilities of the university ($\alpha = 0.856$, $\rho = 0.866$) is composed of the satisfaction with the educational facilities, the social activity-related facilities, the convenience facilities, the campus environment, and the overall facilities that are available to the students. The measurement items for this formative measurement scale include "facilities of my university/college are well structured" ($1 = $ *not at all satisfied* to $7 = $ *very much satisfied*). The facilities scale provided a good fit to the data [$\chi^2 = 11.454$, p=.00, $df = 8$, GFI = 0.986, CFI = 0.994, NFI = 0.982, RMSEA = 0.096].

The measurement model for the satisfaction with college services is conceptualized and tested as a formative model, as shown in Fig. 2. The results are summarized in Tables 1, 2 and 3.

Student Loyalty Student loyalty was conceptualized as a higher order construct that is composed of identification, word-of-mouth, and the intention of contributing donations.

Identification with the college/university ($\alpha = 0.840$, $\rho = 0.845$) was measured with six indicators that were adapted from Mael and Ashforth (1992). The items include: (1) I feel uncomfortable when I hear negative comments about my university/college from other people; (2) I am curious about what other people may think about my university/college; (3) I would rather call it 'my university/college' instead of its official name; (4) Success of my university/college goes together with my personal achievement; (5) I feel satisfaction when I hear good comments regarding my university/college from other people; and (6) I feel ashamed when I hear negative news regarding my university/college from the media (1 = strongly agree to 7 = strongly disagree).

Word-of-mouth ($\alpha = 0.923$, $\rho = 0.925$) was measured using the three indicators that were adapted from Arnett et al. (2003). These items include: (1) I usually talk about my university/college favorably; (2) I often bring out the positive aspects about my university/college during conversations with friends; and (3) I usually try
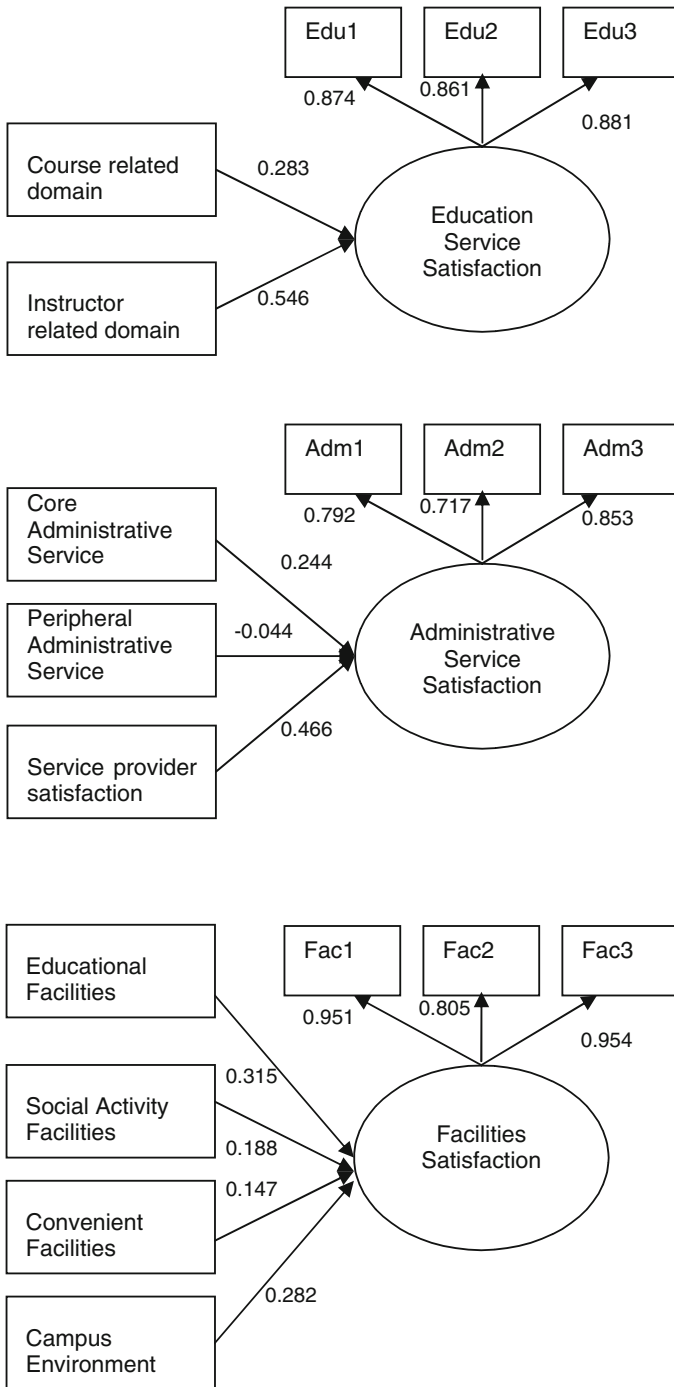
Fig. 2 Formative measurement model for the satisfaction with college services

Table 1 Factor analyses for satisfaction with education services

Education service	Formative specification std. factor		Reflective specification std. factor	
	Loading	*t*-value	Loading	*t*-value
Scale items				
Edu1	/	/	0.874	–
Edu2	/	/	0.861	16.901
Edu3	/	/	0.881	17.515
Course	0.546	8.750	/	/
Instructor	0.283	4.677	/	/

Fit Indices: χ^2 (*p*-value) = 9.603 (0.00), *df* = 4, GFI = 0.983, CFI = 0.992, NFI = 0.986, RMSEA = 0.082
Course: satisfaction with course-related domain; instructor: satisfaction with instructor-related domain

to make positive comments about my university/college (1 = strongly agree to 7 = strongly disagree).

Donation intention (α = 0.851, ρ = 0.896) was measured using three indicators that were adapted from Mael and Ashforth (1992). These items include: (1) I intend to donate money to my university after I have graduated; (2) I will consider my university first when I consider donations; and (3) I often think of giving donations to my university after my graduation (1 = strongly agree to 7 = strongly disagree).

Second-order confirmatory analyses for the *student loyalty* measure were conducted after one item from the *identification* measure was deleted due to large error covariance. The scale for student loyalty as a higher order construct that is composed of three dimensions provided a good fit to the data [χ^2 = 84.117, *p* = .00, *df* = 41, GFI = 0.937, CFI = 0.972, NFI = 0.948, RMSEA = 0.068].

Across Construct Validation

To ensure the reliability and uni-dimensionality of the construct measurement, we first conducted within-construct confirmatory analyses to further purify the items. All of the measurement items are uni-dimensional, and the model provided a good fit to the data. We then conducted within method, across-construct confirmatory factor analyses.

Table 2 Factor analyses for satisfaction with administrative services

Administrative Service	Formative specification std. factor		Reflective specification std. factor	
	Loading	*t*-value	Loading	*t*-value
Scale items				
Adm1	/	/		-
Adm2	/	/		16.901
Adm3	/	/		17.515
Core	0.244	3.594	/	/
Peripheral	−0.044	−0.623	/	/
Attitude	0.466	6.489	/	/

Fit Indices: χ^2 (*p*-value) = 8.789 (0.00), *df* = 6, GFI = 0.988, CFI = 0.992, NFI = 0.977, RMSEA = 0.043
Core: satisfaction with core administrative services domain; peripheral: satisfaction with peripheral administrative services domain; Attitude: satisfaction with administrative service provider's attitude-related domain

Table 3 Factor analyses for satisfaction with facilities

Facilities	Formative specification std. factor		Reflective specification std. factor	
	Loading	t-value	Loading	t-value
Scale items				
Fac1	/	/	0.951	–
Fac2	/	/	0.805	13.597
Fac3	/	/	0.954	14.622
Educational_F	0.315	4.865	/	/
Social_F	0.188	2.885	/	/
Convenience_F	0.147	2.420	/	/
Environment_F	0.282	4.682	/	/

Fit Indices: χ^2 (*p*-value) = 11.454 (0.00), *df* = 8, GFI = 0.986, CFI = 0.994, NFI = 0.982, RMSEA = 0.096
Educational_F: satisfaction with educational facilities-related domain; Social_F: satisfaction with social activity facilities-related domain; Convenience_F: satisfaction with convenient facilities-related domain; Environment_F: satisfaction with campus environment-related domain

The fit indices for the across construct confirmatory factor analysis indicated that the model provided a good fit to the data [χ^2 = 231.416, *p* = .00, *df* = 120; GFI = 0.900; CFI = 0.937; NFI = 0.883; RMSEA = 0.064]. We viewed the model as adequate for use in spite of the significant chi-square statistics, given its strict assumptions and sensitivity to the sample size (Bagozzi et al. 1991). The results of the reliability and the validity tests are summarized in Tables 4 and 5, respectively.

Table 4 Reliability and validity assessment of the measures

Construct	Standardized loadings
Fist-order loading	
Identification	$\alpha = 0.840$, $\rho = 0.845$
Iden1	0.712
Iden2	0.666 (9.268)
Iden3	0.684 (9.517)
Iden4	0.849 (11.496)
Iden5	0.689 (9.578)
WOM	$\alpha = 0.923$, $\rho = 0.925$
WOM1	0.875
WOM2	0.937 (20.212)
WOM3	0.877 (18.228)
Donation intention	$\alpha = 0.851$, $\rho = 0.896$
Dona1	0.857
Dona2	0.834 (15.198)
Dona3	0.891 (16.321)
Second-order loading	
Loyalty	$\alpha = 0.851$, $\rho = 0.781$
Identification	0.883 (8.765)
WOM	0.729 (9.044)
Donation intention	0.582 (7.460)

Fit indices: χ^2 (*p*-value) = 84.117 (0.00), *df* = 41; GFI = 0.937, CFI = 0.972, NFI = 0.948, RMSEA = 0.068
α Cronbach's alpha, ρ composite reliability

Table 5 Reliability and validity assessment of the measures

Construct	Standardized loadings
Educational services satisfaction	$\alpha = 0.893$, $\rho = 0.902$
Edu1	0.856 (15.646)
Edu2	0.850 (15.488)
Edu3	0.900 (16.886)
Administrative services satisfaction	$\alpha = 0.816$, $\rho = 0.828$
Adm1	0.821 (13.616)
Adm2	0.694 (11.090)
Adm3	0.834 (13.891)
Facilities satisfaction	$\alpha = 0.856$, $\rho = 0.867$
Fac1	0.930 (17.213)
Fac2	0.763 (13.011)
Fac3	0.782 (13.440)
Quality of college life	$\alpha = 0.601$, $\rho = 0.728$
Satisfaction	0.951 (13.310)
Happiness	0.527 (7.769)
Loyalty	$\alpha = 0.712$, $\rho = 0.728$
IDEN	0.710 (10.512)
WOM	0.734 (10.895)
DONA	0.612 (8.889)
Involvement	$\alpha = 0.767$, $\rho = 0.801$
Invol1	0.472 (6.978)
Invol2	0.856 (14.459)
Invol3	0.740 (12.000)
Invol4	0.736 (11.927)

Fit indices: χ^2 (*p*-value) = 231.416 (0.00), *df* = 120; GFI = 0.900; CFI = 0.937; NFI = 0.883; RMSEA = 0.064
α Cronbach's alpha, ρ composite reliability

The CFA results indicate that all of the items are significantly loaded to their hypothesized factors without high cross-loadings and thus indicate the convergent validity of the measurement items (Anderson and Gerbing 1988). We assessed the internal validity of all measures by computing the Cronbach's alpha and the composite reliability (α coefficients range from 0.601 to 0.893; ρ coefficients range from 0.728 to 0.902) for each construct, comprising multiple indicators. Almost all of the results exceeded the recommended guidelines, which were both 0.7 (Nunnally 1978), and this confirms the internal validity of the given constructs.

Discriminant validity was tested in the following ways. *First*, we examined the confidence interval of the latent factor correlations and found that none of the 95% confidence intervals of the latent factor correlation matrix contained a value of 1.0. *Second*, we conducted a series of chi-square difference tests for each pair of constructs between the constrained model and the unconstrained model. In all cases, the unconstrained model provided a significantly better fit to the data than the constrained model ($p < 0.01$). *Third*, the phi matrix indicated that the variance of the underlying constructs was higher than the correlations between the constructs. All of these results supported the convergent and discriminant validity of the measures used in the study (Table 6).

Table 6 Correlations among constructs

	EDU	ADM	FAC	QCL	LOYALTY	INVOL
EDU	1.000					
ADM	**0.358** (5.293)	1.000				
FAC	**0.508** (9.000)	**0.377** (5.637)	1.000			
QCL	**0.549** (9.146)	**0.245** (3.367)	**0.471** (7.435)	1.000		
LOYALTY	**0.286** (3.761)	-0.030 (-0.362)	**0.158** (1.987)	**0.597** (9.050)	1.000	
INVOL	0.131 (1.762)	-0.063 (-0.800)	0.102 (1.351)	**0.367** (5.296)	**0.318** (4.093)	1.000

Bold coefficients are significant at $p<0.05$

EDU Educational services satisfaction, *ADM* administrative services satisfaction, *FAC* facilities satisfaction, *INVOL* involvement with college life

Results

We tested the proposed conceptual model (Fig. 1) using the structural equations modeling method. The empirical estimates for the "main effects" model are shown in Table 7. The coefficients and fit statistics of the results both indicate a good fit to the data [χ^2 = 129.757, p = 0.00, df = 70; GFI = 0.925; AGFI = 0.887; CFI = 0.959; NFI = 0.918; RMSEA = 0.061].

H1 posits that QCL has a significant influence on student loyalty. The results indicate that QCL does have a positive influence on student loyalty (estimate = 0.563, p < 0.050), and thus supports H1.

H2 states that the QCL is influenced by the student's satisfaction with the university services. The results indicate that the QCL is significantly influenced by the students' satisfaction with the educational service (estimate = 0.408, p < 0.05) and with the university facilities (estimate = 0.241, p < 0.05) but not with the administrative service (estimate = 0.002, p > 0.05). The results support both H2a and H2c, but not H2b.

H3 states that student satisfaction with university services has a positive impact on student loyalty, as mediated by the Quality of College Life. We formally tested the mediation effect of QCL by using the Sobel test[1] (Baron and Kenny 1986; MacKinnon et al. 1995). Specifically, we tested the mediation effect with the satisfaction of the different types of university services as independent variables, the QCL as the mediator, and student loyalty as the dependent variable (Table 8). The mediation effects of the QCL on the relationship between satisfaction with educational service and student loyalty (t = 4.26, p < 0.05) and on the relationship between satisfaction with university facilities and student loyalty (t = 4.437, p < 0.05) are significant. The mediation effect of QCL was marginally significant on the relationship between satisfaction with administrative services and student loyalty (t = 1.795, p < 0.10). The results fully support H3a and H3c and only marginally support H3b.

---

[1] Sobel test: $t = a * b / SQRT\left(b^2 * s_a^2 + a^2 * s_b^2\right)$: a=raw (unstandardized) regression coefficient for the association between IV and mediator: s_a=standard error of a: b=raw coefficient for the association between the mediator and the DV (when the IV is also a predictor of the DV): s_b=standard error of b.

Table 7 Structural relationships

Structural relationship		Standardized estimates	t-value
H1	Quality of college life→student loyalty	0.563*	5.665
H2a	Educational services satisfaction→quality of college life	0.408*	5.531
H2b	Administrative services satisfaction→quality of college life	0.002	0.029
H2c	Facilities satisfaction→quality of college life	0.241*	3.290

Fit indices: χ^2 (p-value) = 129.757 (0.00), df = 70; GFI = 0.925; AGFI = 0.887; CFI = 0.959; NFI = 0.918; RMSEA = 0.061

H4 deals with the moderation effects of student involvement with college life. Specifically, it has been hypothesized that the effects of student satisfaction with university services based on the perception of the QCL is likely to be greater when the students are highly involved with their college life than when students are less involved with college life. The results indicate that the effects of student satisfaction with educational service and student involvement with college life do not have an interactive effect on QCL (estimate = 0.025, t = 0.395). The results failed to support H4a. The effects of student satisfaction with administrative service based on the perception of the QCL is likely to be greater when students are highly involved in their college life than when they are less involved (estimate = 0.158, t = 2.464). The results supported H4b. The results also indicated that the interactive effect of student satisfaction with university facilities and student involvement based on the perception of the QCL is not significant (estimate = 0.029, t = 0.471). The results failed to support H4c.
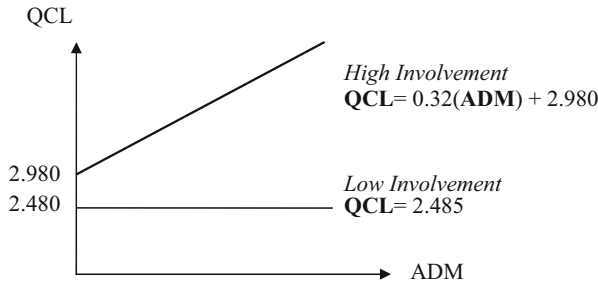
Table 8 Sobel test results

Satisfaction with	a/s_a	b/s_b	Test statistic	p-value
Educational services	0.292 (0.055)	0.471 (0.066)	4.260**	0.000
Administrative services	0.133 (0.072)	0.488 (0.064)	1.795*	0.073
Facilities	0.336 (0.062)	0.510 (0.066)	4.437**	0.000
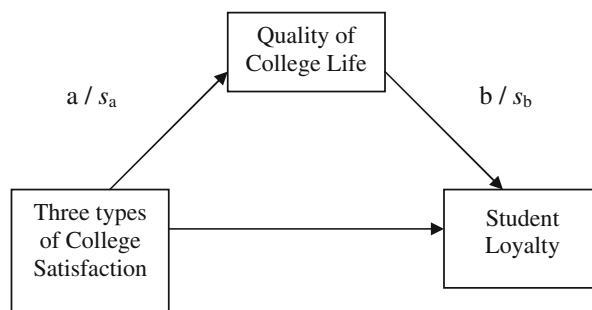
a Raw (unstandardized) regression coefficient for the association between IV and mediator, s_a standard error of a, b raw coefficient for the association between the mediator and the DV (when the IV is also a predictor of the DV), s_b = standard error of b.
*$p<0.10$, **$p<0.05$

QCL

High Involvement
QCL= 0.32(**ADM**) + 2.980

2.980
2.480

Low Involvement
QCL= 2.485

ADM

When Involvement is
1) High: **QCL**= 0.32(**ADM**) + 2.980
2) Low: **QCL**= 2.485

ADM: Administrative Services Satisfaction
QCL: Quality of College Life

Fig. 3 Administrative satisfaction and student involvement interaction effect. When Involvement is *High*: QCL=0.32(ADM) + 2.980, Low: QCL=2.485. *ADM*: Administrative Services Satisfaction. *QCL*: Quality of College Life

The results of testing H4b indicate that satisfaction with the administrative services and the involvement of the student has a significant interaction effect based on the perception of the QCL. In order to determine the nature of this significant interaction, we conducted a moderated regression analysis (Aiken and West 1991). The results indicate that when students are highly involved with their college life, their satisfaction with the administrative services does increase the QCL significantly, but when students are less involved with their college life, then their satisfaction with administrative services fails to increase the QCL (see Fig. 3). All of the interaction results are summarized in Table 9.

Table 9 Interactions between the continuous predictors

	Unstandardized coefficients			
	B	Std. error	T	Sig.
Educational services satisfaction				
Constant	2.709	.059	46.070	.000
EDU	0.272	.055	4.977	.000
INVOL	0.157	.046	3.428	.001
EDU * INVOL	0.016	.040	0.395	.693
Administrative services satisfaction				
Constant	2.733	.060	45.540	.000
ADM	0.145	.069	2.099	.037
INVOL	0.191	.046	4.157	.000
ADM * INVOL	0.135	.055	2.464	.015
Facilities satisfaction				
Constant	2.713	.058	46.595	.000
FAC	0.315	.061	5.198	.000
INVOL	0.160	.045	3.519	.001
FAC INVOL	0.022	.047	0.471	.638

Moderator: involvement in college life

Table 10 Summary of the results

Hypothesis		Results
H1	Quality of college life has a positive impact on student loyalty	Supported
H2a	Satisfaction with educational service has a positive impact on QCL	Supported
H2b	Satisfaction with administrative service has a positive impact on QCL	Rejected
H2c	Satisfaction with university facilities has a positive impact on QCL	Supported
H3a	Satisfaction with educational service has a positive impact on student loyalty, as mediated by Quality of College Life	Supported
H3b	Satisfaction with administrative service has a positive impact on student loyalty, as mediated by Quality of College Life	Marginally Supported
H3c	Satisfaction with university facilities has a positive impact on student loyalty, as mediated by quality of college life	Supported
H4a	The effect of student satisfaction with educational service based on the perception of QCL is likely to be greater when students are highly involved with their college life than when they are less involved	Rejected
H4b	The effect of student satisfaction with administrative service based on the perception of QCL is likely to be greater when students are highly involved with their college life than when they are less involved	Supported
H4c	The effect of student satisfaction with university facilities based on the perception of QCL is likely to be greater when students are highly involved with their college life than when they are less involved	Rejected

Discussion

Summary of Findings

In this paper, we measured the QCL construct as a combination of cognitive QCL and affective QCL. We found that student satisfaction with various services at the university has a positive influence on student loyalty, as mediated by QCL. We directly tested the mediation effect of QCL and found that the QCL does indeed mediate the student satisfaction and student loyalty relationship. We also found that student involvement in college life has some moderating effect on student satisfaction with the administrative services in forming the QCL. All of the results are summarized in Table 10.

Managerial Implications

The findings of this study provide college administrators with the following managerial implications. *First*, it has been determined that QCL is significantly influenced by the students' satisfaction with educational services and university facilities. Satisfaction with administrative services has a limited impact on QCL. These findings suggest that universities need to place higher priorities in enhancing educational services and upgrading university facilities. These findings also indicate that the QCL is heavily influenced by services that require the interaction of students more often.

Second, the results indicate that satisfaction with administrative service has a significant influence on QCL only for those students who are highly involved in their college life. When students are less involved in their college life, their satisfaction with administrative services failed to increase the QCL. In implementing

various strategies to enhance administrative services, priorities should be given to those students who are highly involved in their college life.

Third, this study also suggests that the QCL has a positive influence on student loyalty. In order to enhance student loyalty, university managers and policy makers should make efforts to increase the QCL of students by ensuring that satisfy all of their needs and provide experiences that generate positive affects throughout their college life. In other words, university policy makers should take a long-term approach to enhance the QCL of their students.

Fourth, the study's findings indicate that the student satisfaction and student loyalty relationship is mediated by the QCL. This implies that universities should make concerted efforts to measure and manage QCL directly. Not all types of student satisfaction have a significant influence on student loyalty. The results of this study suggest that marketers and policy makers should make efforts to enhance the QCL of their students by either enhancing student satisfaction and/or student involvement in the college life domain.

Limitations and Direction for Future Research

Despite the merits of this study, it has the following limitations. *First*, the respondents used in this study were from a convenient source. Future studies should use a more representative sample set. An area sampling method with more representative samples will provide more generalized results to apply towards the entire population.

Second, the data in this study were collected in Korea, a relatively collectivistic society. Studies have found that an independent self-concept is emphasized in an individualistic society, and the collective self-concept is emphasized in a collectivistic society (Diener et al. 2000; Markus and Kitayama 1991; Triandis 1989). Future studies should examine whether the QCL findings can be applied to other individualistic cultures.

Third, this study measured the QCL as a composite of the cognitive component (need satisfaction) and the affective component (PA-NA). In doing so, we did not use the weight or importance of each component in forming the QCL (Diener et al. 1991). Future studies should examine the underlying conditions (groups or situations) that would cause a component to become more important than the other.

Fourth, this study focused on student loyalty as a consequence of the QCL. Other variables, such as trust in the college (Morgan and Hunt 1994) and the overall satisfaction with their life may have caused additional attitudinal consequences in this study (Diener 1984). Future studies can extend the conceptual model of this study by incorporating these other variables.

Fifth, previous studies have found that the overall QOL is positively influenced by optimism, self esteem, and feelings of achievement (Chow 2005; Emmons and Diener 1986; Sam 2001; Schmuck et al. 2000). This study did not control the individual characteristics and personalities that may have affected the outcome of this model. Specifically, one can argue that one's QCL is influenced by such personality variables as optimism (Scheier et al. 1994), extraversion, neuroticism, openness, agreeableness, consciousness (Costa and McCrae 1985), and self esteem

(Diener and Diener 1995). Future studies should examine the role of these personality factors in QCL.

Despite the above limitations, we believe this study is an important step towards understanding the role that QCL has in student satisfaction and loyalty. We hope that future studies will lead to a better understanding of the measurement of the QCL and its antecedents and consequences.

Appendix

Measures Used in This Study

Table 11 Need types and corresponding QCL need satisfaction indicator

Need type	QCL-need satisfaction indicator/measure
Health and safety needs	I feel that I can maintain/enhance my health at college.
	I feel physically safe at my college.
	My college is a safe place.
Economic and family needs	I think that the overall expenditure in my college life is acceptable.
	The tuition fees are affordable.
	I am satisfied with what I am paying to experience my college life.
Social needs	I am getting along nicely with people in my college.
	I have a strong sense of belonging from several student unions within my college.
	I have enough time away from academic requirements
Esteem needs	I am proud of being a student at my college.
	I am satisfied with myself in my college.
	I find myself an important person in my college.
Actualization needs	I believe that I am realizing my full potential through my college life.
	I believe that I am developing my personality through my college life.
	My college helps me realize my potential.
	I believe that I can find my ideal-self through my college life.
Knowledge needs	I believe that I am learning new things in my fields of interests.
	My college life allows me to have profound academic knowledge.
	My college life helps build professional knowledge.
Aesthetics needs	I find my campus environment beautiful.
	I can participate in various performances (exhibition, art festival) that are held at my college.
	I can fulfill my aesthetic needs through my college life.

Table 12 Types of satisfaction

Types of satisfaction
Educational services satisfaction
I am satisfied with the education services provided by my university/college.
My university/college is well prepared for providing a good education.
The educational services provided by my university/college are well arranged.
Administrative services satisfaction
I am satisfied with the administrative services provided by my university/college.
The administrative services provided by my university/college are helpful to my life as a student.
The administrative services provided by my university/college are well arranged.
Facilities satisfaction
I am satisfied with the facilities of my university/college.
The facilities of my university/college are helpful to my life as a student.

Table 12 (continued)

Types of satisfaction

 The facilities of my university/college are well structured.
Quality of college life
 Satisfaction
 Happiness
Identification
 I feel uncomfortable when I hear bad things about my university/college from other people.
 I am curious about the way other people think about my university/college.
 I'd rather call it 'my university/college' instead of its official name.
 The success of my university/college goes together with my personal achievement.
 I feel proud when I hear good things about my university/college from other people.
 I feel ashamed when I hear negative news from the multimedia regarding my university/college.[a]
WOM
 I usually talk about my university/college favorably.
 I often point out the positive aspects of my university/college during conversations with friends.
 I usually try to make positive comments on my university/ college.
Donation intentions
 I intend to donate money to my university after graduation.
 I will consider my university first when I consider donations.
 I often think of giving donations to my university after graduation.

[a] Items deleted

References

Aiken, L. S., & West, S. G. (1991). *Multiple regression: testing and interpreting interactions*. London: Sage.

Anderson, E. W., Fornell, C., & Lehman, D. (1994). Customer satisfaction, market share, and profitability: findings from Sweden. *Journal of Marketing*, *58*(July), 53–66. doi:10.2307/1252310.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: a review and recommendation of two-step approach. *Psychological Bulletin*, *103*(3), 411–423. doi:10.1037/0033-2909.103.3.411.

Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being: America's perception of quality of life*. New York: Plenum.

Arnett, D. B., German, S. D., & Hunt, S. D. (2003). The identity salience model of relationship marketing success: the case of nonprofit marketing. *Journal of Marketing*, *67*(2), 89–105. doi:10.1509/jmkg.67.2.89.18614.

Assael, H. (2004). *Consumer behavior, a strategic approach*. New York: Houghton Mifflin.

Astin, A. (1993). *What matters in colleges? four critical years revisited*. San Francisco: Jossey-Bass.

Bagozzi, R. P., Yi, Y., & Phillips, L. W. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly*, *36*(3), 421–458. September doi:10.2307/2393203.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182. doi:10.1037/0022-3514.51.6.1173.

Bhattacharya, C. B., & Sen, S. (2003). Consumer-company identification: a framework for understanding customer's relationships with companies. *Journal of Marketing*, *67*(April), 76–88. doi:10.1509/jmkg.67.2.76.18609.

Brandburn, M. (1969). *The structure of psychological well being*. Chicago: Adline.

Brewer, M. B. (1991). The social self: on being the same and different at the same time. *Personality and Social Psychology Bulletin*, *17*(5), 475–482. doi:10.1177/0146167291175001.

Callero, P. L. (1985). Role-identity salience. *Social Psychology Quarterly*, *48*(3), 203–215. doi:10.2307/3033681.

Campbell, A. C., Philip, E. C., & Rodgers, W. L. (1976). *The quality of American life*. New York: Sage.

Cardador, M. T., & Pratt, M. G. (2006). Identification management and its bases: bridging management and marketing perspectives through a focus on affiliation dimensions. *Journal of the Academy of Marketing Science*, *34*(2), 174–184. doi:10.1177/0092070305284984.

Chadwick, K., & Ward, J. (1987). Determinants of consumer satisfaction with education: implications for college and university administrators. *College and University*, *62*, 236–246.

Chow, H. P. H. (2005). Life satisfaction among university students in a Canadian prairie city: a multivariate analysis. *Social Indicators Research*, *70*, 139–150. doi:10.1007/s11205-004-7526-0.

Costa, P. T., Jr., & McCrae, R. R. (1985). *The NEO personality inventory*. Odessa: Psychological Assessment Resources.

Dick, A. S., & Basu, K. (1994). Customer loyalty toward an integrated conceptual framework. *Journal of the Academy of Marketing Science*, *22*(2), 99–113. doi:10.1177/0092070394222001.

Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, *95*, 542–575. doi:10.1037/0033-2909.95.3.542.

Diener, E. (1994). Assessing subjective well being: progress and opportunities. *Social Indicators Research*, *31*, 103–157. doi:10.1007/BF01207052.

Diener, E., & Diener, M. (1995). Cross cultural correlates of life satisfaction and self esteem. *Journal of Personality and Social Psychology*, *68*, 653–663. doi:10.1037/0022-3514.68.4.653.

Diener, E., & Emmons, R. A. (1984). The independence of positive and negative affect. *Journal of Personality and Social Psychology*, *47*, 1105–1117. doi:10.1037/0022-3514.47.5.1105.

Diener, E., Sandvik, E., & Pavot, W. (1991). Happiness is the frequency, not the intensity, of positive versus negative affect. In F. Strack, M. Argyle, & N. Schwarz (Eds.), *Subjective Well Being* (pp. 119–139). Oxford: Pergamon.

Diener, E., Scollon, N., Oishi, S., Dzokoto, V., & Suh, E. (2000). Positivity and the construction of life satisfaction judgment: global happiness is not the sum of its parts. *Journal of Happiness Studies*, *1*, 159–176. doi:10.1023/A:1010031813405.

Diener, E., Smith, H., & Fujita, F. (1995). The personality structure of affect. *Journal of Personality and Social Psychology*, *69*, 130–141. doi:10.1037/0022-3514.69.1.130.

Emmons, R. A., & Diener, E. (1986). Influence of impulsivity and sociability on positive and negative affect. *Journal of Personality and Social Psychology*, *50*, 1211–1215. doi:10.1037/0022-3514.50.6.1211.

Gustafsson, A., Johnson, M. D., & Roos, I. (2005). The effects of customer satisfaction, relationship commitment dimensions, and triggers on customer retention. *Journal of Marketing*, *69*(October), 210–218. doi:10.1509/jmkg.2005.69.4.210.

Hall, D., & Stamp, J. (2003). *Meaningful Marketing*. New York: Dug Hall.

Hennig-Thurau, T., Langer, M. F., & Hansen, U. (2001). Modeling and managing student loyalty - an approach based on the concept of relationship quality. *Journal of Service Research*, *3*(4), 331–344. doi:10.1177/109467050134006.

Lam, S. Y., Shankar, V., Erramilli, M. K., & Murthy, B. (2004). Customer value, satisfaction, loyalty, and switching costs: an illustration from a business-to-business service context. *Journal of the Academy of Marketing Science*, *32*(3), 293–311. doi:10.1177/0092070304263330.

Lee, D.-J., & Sirgy, M. J. (1995). Determinants of involvement in the consumer/marketing life domain in relation to quality of life: a theoretical model and research agenda. In H. L. Meadow, M. J. Sirgy, & D. Rahtz (Eds.), *Developments in quality of life studies in marketing* (pp. 13–18). Blacksburg: Academy of Marketing Science.

Lucas, R., Diener, E., & Suh, E. (1996). Discriminant validity of subjective well being measures. *Journal of Personality and Social Psychology*, *71*, 616–628. doi:10.1037/0022-3514.71.3.616.

MacKinnon, D. P., Warsi, G., & Dwyer, J. H. (1995). A simulation study of mediated effect measures. *Multivariate Behavioral Research*, *30*(1), 41–62. doi:10.1207/s15327906mbr3001_3.

Mael, F., & Ashforth, B. E. (1992). Alumni and their alma mater: a partial test of the reformulated model of organizational identification. *Journal of Organizational Behavior*, *13*, 103–123. doi:10.1002/job.4030130202.

Markus, H., & Kitayama, S. (1991). Culture and self: implications for cognition, emotion, and motivation. *Psychological Review*, *98*, 244–253. doi:10.1037/0033-295X.98.2.224.

Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, *58*(3), 20–38. doi:10.2307/1252308.

Ng, S. L. (2005). Subjective residential environment and its implications for quality of life among university students in Hong Kong. *Social Indicators Research*, *71*(1), 467–489. doi:10.1007/s11205-004-8032-0.

Nunnally, J. C. (1978). *Psychometric Theory*. New York: McGraw-Hill.

Oliver, R. L. (1999). Whence customer loyalty. *Journal of Marketing*, *63*, 33–44. doi:10.2307/1252099.

Pate, W. S., Jr. (1990). *Modeling consumer satisfaction, determinants of satisfaction*. Chapel Hill: University of North Carolina at Chapel Hill.

Pilcher, J. J. (1998). Affective and daily event predictors of life satisfaction in college students. *Social Indicators Research*, *43*(3), 291–306. doi:10.1023/A:1006883231707.

Plutchick, R. (2003). *Emotions and life: perspectives from psychology, biology, and evolution*. Washington, D.C.: American Psychological Association.

Reichheld, F. F. (2003). The one number you need to grow. *Harvard Business Review 81* (December), 46–54.

Russell-Bennett, R., McColl-Kennedy, Jr., Coote, L. V. (2007). Involvement, satisfaction, and brand loyalty in a small business services setting. *Journal of Business Research*, In Press.

Sam, D. L. (2001). Satisfaction with life among international students: an exploratory study. *Social Indicators Research*, *53*, 315–337. doi:10.1023/A:1007108614571.

Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self mastery, and self esteem): a reevaluation of the life orientation test. *Journal of Personality and Social Psychology*, *67*, 1063–1078. doi:10.1037/0022-3514.67.6.1063.

Schmuck, P., Kasser, T., & Ryan, R. M. (2000). Intrinsic and extrinsic goals: their structure and relationship to well-being in German and US college students. *Social Indicators Research*, *50*, 225–241. doi:10.1023/A:1007084005278.

Simpson, P. M., & Siguaw, J. A. (2000). Student evaluations of teaching: an exploratory study of the faculty response. *Journal of Marketing Education*, *22*(3), 199–213. doi:10.1177/0273475300223004.

Sirgy, M. J. (1986). A quality of life theory derived from Maslow's development perspective: 'quality' is related to progressive satisfaction of a hierarchy of needs, lower order and higher. *American Journal of Economics and Sociology*, *45*(July), 329–432. doi:10.1111/j.1536-7150.1986.tb02394.x.

Sirgy, M. J. (2002). *The psychology of quality of life*. Dordrecht: Kluwer Academic.

Sirgy, M. J., Efraty, D., Siegel, P., & Lee, D.-J. (2001). A new measure of quality of work life (QWL) based on need satisfaction and spillover theories. *Social Indicators Research*, *55*(3), 241–302. doi:10.1023/A:1010986923468.

Sirgy, M. J., Grezeskowiak, S., & Rahtz, D. (2007). Quality of College Life (QCL) of students: developing and validating a measure of well being. *Social Indicators Research*, *80*, 343–360. doi:10.1007/s11205-005-5921-9.

Sirgy, M. J., & Lee, D.-J. (2006). Macro measure of consumer well being: a critical analysis and research agenda. *Journal of Macromarketing*, *26*(1), 27–44. doi:10.1177/0276146705285669.

Sirgy, M. J., Lee, D.-J., & Kressmann, F. (2006). A need based measure of Consumer Well Being (CWB) in relation to personal transportation: nomological validation. *Social Indicators Research*, *79*(2), 337–367. doi:10.1007/s11205-005-4920-1.

Sirgy, M. J., Lee, D.-J., Larsen, V., & Wright, N. (1998). Satisfaction with material possessions and general well-being: the role of materialism. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, *11*, 103–118.

Sirgy, M. J., Rahtz, D., Cicic, M., & Underwood, R. (2000). A method for assessing residents' satisfaction with community-based services: A quality-of-life perspective. *Social Indicators Research*, *49*, 279–316. doi:10.1023/A:1006990718673.

Suh, E., Diener, E., & Fujita, F. (1996). Events and subjective well being: only recent events matter. *Journal of Personality and Social Psychology*, *70*(5), 1091–1102. doi:10.1037/0022-3514.70.5.1091.

Tajfel, H., & Turner, J. C. (1985). The social identity theory of ingroup behavior. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (pp. 6–24). Chicago: Nelson Hall.

Tinto, V. (1993), *Leaving college: Rethinking the causes and cures of student attrition*. Chicago: University of Chicago Press.

Triandis, H. C. (1989). The self and social behavior in differing cultural context. *Psychological Review*, *96*, 506–520. doi:10.1037/0033-295X.96.3.506.

Venhooven, R. (1984). *Conditions of Happiness*. Dordrecht: Reidel.

Verhoef, P. C., Franses, P. H., & Hoekstra, J. C. (2002). The effect of relational constructs on consumer referrals and number of services purchased from a multiservice provider: does age of relationship matter? *Journal of the Academy of Marketing Science*, *30*(3), 202–216.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS Scale. *Journal of Personality and Social Psychology*, *54*(6), 1063–1070. doi:10.1037/0022-3514.54.6.1063.