Correlations among Peer Relations, Learning Activities with Friends, and University Adjustment

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Abstract

The purpose of this study was to examine the relations among peer relations, learning activities with friends, and university adjustment. A questionnaire was distributed to 148 female university students in Japan. The participants responded to three scales that measured their peer relations at the university, learning activities with friends, and university adjustment. It was hypothesized that good peer relations promote a higher rate of learning activities with friends, which in turn predicts higher rates of successful university adjustment. Results of a structural equation model showed that peer relations significantly predicted four factors of learning activities with friends, and that mutual peer encouragement in academic settings contributed to an improved sense of university adjustment. Overall, the results indicate that students with good peer relationships have opportunities to learn and help their friends in learning activities, and such students feel comfortable in their university lives. On the other hand, learning activities such as depending on friends for support can adversely impact university adjustment. Therefore, this study's results partially supported its hypothesis.

Key words: peer relations, learning activities with friends, university adjustment

Introduction

According to Astin (1993), peers are the most important influence on college student development. A growing body of research has recognized and established that peers contribute to students' academic motivation and school adjustment (Berndt, 1999; Birch & Ladd, 1996). The literature on the benefits or role of friends during emerging adulthood is not as extensive, but does indicate that peers often take the place of family members as primary attachment figures (Fraley & Davis, 1997) and play a role in need fulfillment (Carbery & Buhrmester, 1998).

However, the reason good peer relations should positively predict academic motivation or university adjustment has not yet been closely examined. According to Anderman (1999), we need to consider not only academic goals and academic motivation but also social motivation when we examine the factors affecting learning behaviors. In addition, Okada (2008) suggests that learning and solving problems cooperatively with friends have a strong influence on positive attitudes toward students' learning. Okada (2008) also indicates that students generally interact with their friends in academic settings on the basis of good relationships, and these experiences promote students' academic motivation or academic achievement. Furthermore, a large body of research has found evidence of an association between academic adjustment and university adjustment or university satisfaction (Matsushima & Ozaki, 2012; Mizokami, 2004). This suggests that students who have more opportunities to learn with their friends feel a sense of fulfillment in their studies and also adapt well to university life.

From the results of earlier research, we can assume that cooperative and supportive learning activities with friends are among the mediators between peer relations and university adjustment. Thus, this study examined the relations among peer relations, learning activities with friends, and university adjustment. The hypothesized model is presented Fig. 1.

Earlier research also suggests that good peer relations promote a higher rate of learning activities with friends, which in turn predicts higher rates of successful university adjustment. In the first procedure of the study, the correlation among these three factors was examined. In the second procedure, a structural equation model was conducted to investigate the predictors (peer relationships and learning activities with friends) of university adjustment.

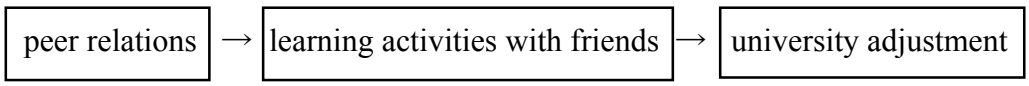


Fig. 1 Hypothesized model

Method

Participants

The participants of this study included a total of 148 female university students enrolled in psychology and education courses in the Kansai region of Japan. Their ages ranged from 18 to 25 (M = 19.66, SD = 1.10). Originally, 152 students took part in the study, but of these, four were dropped because of missing data. The participants responded to three scales designed to measure peer relations at the university, learning activities with friends, and university adjustment.

Measures

Peer relations at the university. This 4-item section was adopted from Cemalcilar's (2009) study. When responding to the scale, participants were asked to think about their peer relations in their university life. A five-point response scale was used for the ratings, with anchors *not at all* (1) to *very strongly* (5).
Learning activities with friends. In a pilot study, 140 students completed open-ended questionnaires, in which they were requested to describe their learning activities with friends. From this pilot study, 31 items were adopted. When responding to the scale, participants were asked to think about their academic activities with friends at the university. A five-point response scale was used for the ratings, with anchors *not at all* (1) to *very strongly* (5).
University adjustment. This 29-item section was adopted from Okubo and Aoyagi (2003) with four scales (sense of comfort, sense of being trusted and accepted, existence of interest and purpose of studying, and no sense of rejection). The high internal consistency of this scale has been confirmed and its construct validity has also been assessed (Okubo and Aoyagi, 2003). When responding to the scale, participants were asked to reflect on their university lives. A five-point response scale was used for the ratings, with anchors *not at all* (1) to *very strongly* (5).

Procedure

Data were collected from 148 female Japanese university students in September 2013 in the Kansai Region of Japan. Confidentiality procedures and anonymity were carefully explained in the written consent form as well as verbally. The SPSS software (ver. 20) and AMOS (ver. 19) were used to analyze the data.

Results

Factor analysis of learning activities with friends

To confirm the factor structure of the learning activities with friends, an unweighted least-squares procedure was conducted on the 31 items. After promax rotation, five items with a factor loading of less than 0.35 were excluded from subsequent analyses. The remaining 26 items were examined using an unweighted least-squares procedure with promax rotation. After promax rotation, items with factor loadings greater than 0.35 were considered (Table 1).

The first factor was labeled mutual cooperation in report and homework preparation, since it comprised items related to these activities, such as "I have my friends' help for my report and homework" and "I help my friends with their reports and homework." The second factor was labeled mutual cooperation in class and exam preparation, since it comprised items related to these matters, such as "I have my friends show me their notebooks and handouts when I am absent from classes" and "I have my friends teach me the scope of exams." The third factor was labeled encouraging each other, since it comprised items related to encouragement, such as "My friends and I motivate each other to learn" and "My friends and I support each other to motivate our learning." The fourth factor was labeled cooperation with club members in exam and

report preparation, since it comprised items such as “I ask senior club members about test contents and different methods of studying” and “I teach test contents and methods of studying to my junior club members.”
These four factors accounted for 55.08% of the total variance. To examine the internal consistency of each factor, Chronbach alpha reliability coefficients were calculated to be .908, .894, .789, and .822 respectively.

Table 1　Results of factor analysis for learning activities with friends

	Factor			
	1	2	3	4
28. I have my friends' help for my report and homework.	**1.095**	−.019	−.299	−.063
24. I help my friends with their report and homework.	**.834**	.065	−.273	.213
25. My friends and I share our homework with each other and discuss it.	**.752**	.070	−.076	.085
27. My friends and I ask teachers questions when we can't understand something in classes.	**.649**	−.088	.169	.013
15. I study with my friends at a café or coffee shop.	**.574**	−.091	.291	−.034
21. I write reports and conduct research with my friends.	**.513**	.026	.282	.045
26. I exchange information about classes with my friends during breaks.	**.461**	.079	.326	−.224
8. I study with my friends at my or friends' house.	**.447**	−.248	.273	.291
29. My friends and I share information with my friends by crosschecking our notebooks.	**.399**	.328	.114	.014
1. I study with my friends at the university library or cafeteria.	**.390**	−.044	.309	−.184
30. I have my friends show me their notebooks and handouts when I am absent from classes.	−.063	**.934**	−.331	−.005
23. I have my friends teach me the scope of the exam.	.158	**.763**	−.144	−.074
19. I check the scope and contents of the exam with my friends before exam.	−.206	**.609**	.265	.096
11. I show my notebooks and resumes to my friends when they are absent from classes.	−.193	**.603**	.138	.004
12. I discuss and check the assignment with my friends.	.142	**.603**	.075	.052
3. I have my friends teach me what I can't understand in classes.	.036	**.562**	.246	−.040
2. My friends and I teach each other when we can't understand something in classes.	.121	**.496**	.277	−.064
22. My friends and I try to solve each other's problems when we can't understand something in classe	.249	**.458**	.245	−.052
10. I communicate with my friends by using e-mail or Skype when I understand about classes.	.156	**.445**	.065	.161
14. My friends and I motivate each other to learn.	.046	.015	**.729**	.028
7. My friends and I support each other to motivate our learning.	.022	.132	**.712**	.025
18. I participate in experiments and questionnaires of senior students for their thesis.	−.201	−.067	**.597**	.169
4. I teach my friends when they can't understand in classes.	.009	.188	**.399**	.042
20. My friends and I recommend useful books and references to each other for learning.	.329	−.020	**.395**	.123
17. I ask senior club members about test contents and different methods of studying.	−.047	.109	.121	**.842**
31. I teach test contents and methods of studying to my junior club members.	.085	−.064	.074	**.718**
Factor Correlation				
2	.625			
3	.690	.652		
4	.426	.184	.404	

Correlations among subscale factors

Table 2 shows the mean, SD, and Chronbach α values for all scales. The correlation of these factors is also shown in Table 5.
Peer relations correlated positively with the four factors of learning activities with friends (r = .412, p < .001; r = .541, p < .001; r = .494, p < .001; r = .282, p < .001), which in turn correlated positively with the four factors of university adjustment (r = .744, p < .001; r = .580, p < .001; r =.465, p < .001; r =.192, p < .021). In addition, the correlations show that the four factors of learning activities with friends are significantly correlated with “sense of comfort” (r = .421, p < .001; r = .453, p < .001; r = .560, p < .001; r = .317, p < .001), and “sense of being trusted and accepted” (r = .510, p < .001; r = .466, p < .001; r = .658, p < .001; r = .479, p < .001). “Mutual cooperation in report and homework preparation,” “encouraging each other,” and “cooperation with club members for exam and report preparation” are all significantly correlated with “existence of interest and purpose of studying” (r = .216, p < .009; r = .389, p < .001; r = .296, p < .001).

Table 2 Correlations between subscale scores (n = 148)

	1	2	3	4	5	6	7	8	M	SD	α
1. peer relations									3.85	0.82	.92
2. mutual cooperation in report and homework preparation	.412**								2.80	0.93	.91
3. mutual cooperation in class and exam preparation	.541**	.679**							3.72	0.75	.89
4. encouraging each other	.494**	.692**	.661**						3.30	0.88	.79
5. cooperating with club members for exam and report preparation	.282**	.499**	.325**	.509**					2.45	1.29	.82
6. sense of comfort	.744**	.421**	.453**	.560**	.317**				3.43	0.67	.83
7.sense of being trusted and accepted	.580**	.510**	.466**	.658**	.479**	.767**			3.15	0.75	.89
8. existence of interest and purpose of studying	.465**	.216**	.161	.389**	.296**	.678**	.560**		3.47	0.74	.81
9. no sense of rejection	.192*	-.156	-.065	.065	-.084	.404**	.190*	.415**	3.27	0.71	.80

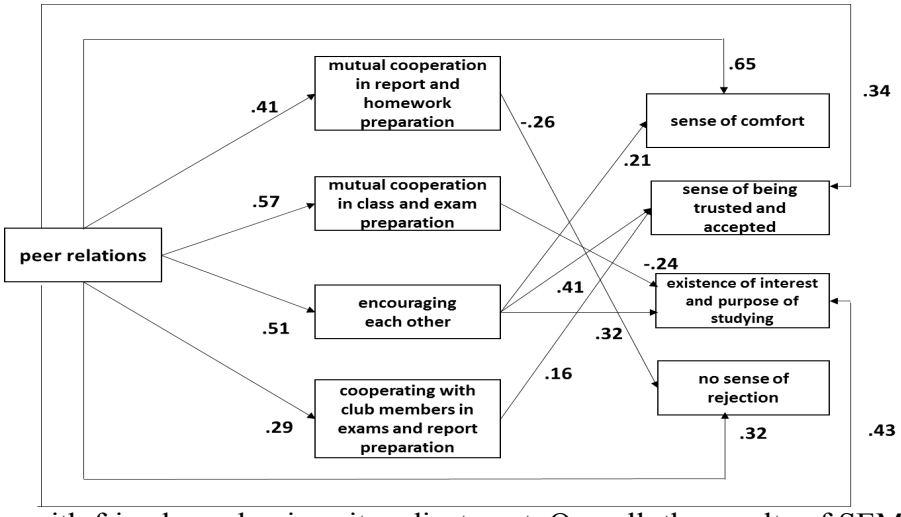
Testing the hypothesized model

A structural equation model (SEM) was used to test Fig. 1. Results showed that peer relations significantly predicted the four factors of learning activities with friends (β = .41, p < .001; β = .57, p < .001; β = .51, p < .001; β = .29, p < .001). In addition, "encouraging each other" significantly predicted a "sense of comfort" (β = .21, p < .001), a "sense of being trusted and accepted" (β = .41, p < .001), and the "existence of interest and purpose of studying" (β = .32, p < .001). Furthermore, "cooperating with club members for exams and report preparation" significantly predicted a "sense of being trusted and accepted" (β = .16, p < .004), "mutual cooperation in report and homework preparation" predicted the "no sense of rejection" (β = −.26, p < .002), and "mutual cooperation in class and exam preparation" predicted the "existence of interest and purpose of studying" (β = −.24, p < .006). This model fit the data well with GFI = .982, AGFI = .921, CFI = .998, and RMSEA = .030.

Fig. 2 Standardized beta coefficients for the hypothesized SEM. All parameters significant at p < .01.

Discussion

The purpose of this study was to examine relations among peer relations, learning



activities with friends, and university adjustment. Overall, the results of SEM (Fig. 2) demonstrated that students with good peer relationships have opportunities to learn and help their friends in learning activities. Furthermore, learning behaviors with

friends, such as motivating and encouraging each other, contribute to better university adjustment. These findings generally show that the impact of friends on university adjustment is based on their mutual support and encouragement in learning. In addition, emotional support, such as encouraging each other in learning settings, was the most important among the four factors of learning activities for university adjustment.

Although the results showed that a significant link exists between peer relationships and adjustment to university life, not all the factors related to learning activities positively influenced university adjustment. The results showed that a significant link exists between peer relationships and adjustment to university life, not all the factors related to learning activities positively influenced university adjustment. The results of the SEM show that depending on friends for support (among other activities) can adversely affect university adjustment.

A possible contributor to this finding might have been the difference in quality of the four leaning activities with friends, because not all learning activities with friends necessarily contribute to successful university adjustment. It is necessary for us to explore further the details of the relationship between learning activities and university adjustment. In sum, the result of the analyses partially supported the hypothesis of this study, as two factors of learning activities with friends negatively predicted university adjustment.

The results of this study have the following practical implication: University education should focus on encouraging students to build good social relations and not depend solely on friends for support, both as part of the regular curriculum and through extracurricular programs. However, several limitations to this study require consideration: First, the number of participants was relatively small, limiting the generalizability of the current findings. Second, this study examined only female students, and results of earlier studies have confirmed gender differences in learning and study strategies (Marrs & Sigler, 2011). Therefore, we also need to administer the questionnaire to male students in the future to examine any gender differences.

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