

Study on the Effects of Interpersonal-Communication Competence and Family Communication Patterns on Academic Resilience

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Abstract

Objectives: This study was carried out to evaluate the impact of interpersonal communication competence and family communication patterns on the level of academic resilience. **Methods/Statistical analysis:** The data for a total of 259 nursing students were analyzed by descriptive statistics, t-tests, an ANOVA, Pearson's correlations and hierarchical regression using the IBM SPSS 22.0 program. **Findings:** Interpersonal communication competence was significantly correlated with conversation-oriented family communication patterns and academic resilience ($p < .001$). The factors in step 1 of the regression analysis indicated several factors with significant impact on academic resilience: whether participants resided with family, interpersonal relationships, personality, and academic achievement. In step 2, academic achievement, interpersonal-communication competence, and conversation-oriented family communication patterns were identified as factors. **Improvements/Applications:** Remediation should reflect the different types of communication skills needed to promote academic resilience.

Keywords: Academic Resilience, Effect, Family Communication Pattern, Interpersonal-Communication Competence, Nursing Student

1. Introduction

Nursing students are required to acquire key knowledge, integrate nursing skills and interpersonal skills, and adapt to clinical activities during the college period¹. Therefore, they experience a high degree of academic stress. This, of course, reduces academic achievement and diminishes motivation and interest in school students' major field of study². Academic resilience as the ability of students to overcome adversity encountered in academic achievement is a very important concept for nursing students³.

Academic resilience is the personal ability to overcome difficulties and to increase academic achievement in the maintenance of the school. Academic resilience has been identified as having the most positive effect on college life adjustment⁴. This leads to adaptation to studying or school life as well as to further adaptation within soci-

ety³. One of the factors that affect academic resilience is communication skills. In¹ demonstrated that higher communication skills were associated with high academic resilience.

Communication skills are also important for nursing students because effective care is achieved through effective communication⁵. One of the factors affecting communication skills is family communication patterns. Family communication patterns are closely related to children's personalities and communication skills in the socialization of children⁶.

Family abuse experience was found to have a negative correlation with resilience⁷. Family abuse includes verbal and physical aspects. In addition, family communication patterns are divided into conversation-oriented patterns and conformity-oriented patterns⁸. Conversation-oriented patterns comprise actively encouraging children

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to express their opinions and claims. This pattern is positively correlated with the socialization of children⁹. Conversely, conformity-oriented patterns emphasize the harmony of interpersonal relationships within the family and refer to the tendency to avoid conflict or controversy. This pattern is negatively correlated with the socialization of children⁹.

This study examines the correlation between nursing students' academic resilience and family communication patterns, and will determine the impact of family communication patterns on academic resilience. Therefore, the results will provide preliminary data for interventions to improve the academic resilience of nursing students.

2. Study Objectives

This study analyzes the relationships between nursing students' interpersonal-communication competence, family communication patterns and academic resilience to provide a basis for developing strategies to increase nursing students' academic resilience. The specific objectives were as follows.

- Analyze interpersonal communication competence, family communication patterns, academic resilience information, and examine their relationships.
- Analyze interpersonal-communication competence, family communication patterns, and academic resilience level according to general characteristics.
- Analyze the factors affecting academic resilience.

3. Methodology

3.1 Study Design

This study comprised descriptive correlational research examining the relationship between nursing students' interpersonal-communication competence, family communication patterns and academic resilience.

3.2 Study Subjects

The study subjects were male and female students of the universities in the city D. The sample size of this study was calculated using the G * Power 3.1.7 program with an effect size of 0.15, $\alpha = .05$, and statistical power of 0.80 for the regression analysis calculated with 14 variables.

The required number of subjects was 135. However the study was conducted with a larger sample of 256 people to increase generalizability.

3.3 Study Variables

- Interpersonal Communication Competence
- In¹⁰ translated the ICC (Interpersonal Communication Competence Scale) by¹¹, which was used in this study to measure interpersonal-communication skills. This scale includes a total of 30 questions and responses are provided using a 5-point Likert-type scale. Higher scores indicate good interpersonal-communication skills. Cronbach's alpha was .71 in the study by ¹⁰ and .86 in this study.
- Family Communication Pattern
- A family communication patterns questionnaire developed by¹² and modified by¹³ was used. The present questionnaire consists of 11 conversation-oriented questions and 10 conformity-oriented question; responses are indicated by a 5-point Likert-type scale. In Ban's study¹³, Cronbach's alpha for the conversation-oriented items was .86 and .72 for the conformity-oriented items. In this study, Cronbach's alpha was .88 and .83, respectively.
- Academic resilience
- In this study, we used the measure developed by². This tool assesses self-control, learning control, accountability challenges, and the four factors of parental support, with 19 items measures by a 5-point Likert-type scale. Higher scores indicate good academic resilience. Cronbach's alphas in the study by² were .78-.72, and .91 in this study.

3.4 Method of Data Analysis

Data analysis was performed using the SPSS 22.0 program according to the following method.

- General characteristics of the nursing students were analyzed by frequencies and percentages.
- Interpersonal-communication competence, family communication patterns, and academic level were examined according to the general characteristics of the nursing students using t-tests or an ANOVA. A post-test was conducted using Schaffer's test.

- An analysis of the relationships between interpersonal-communication competence, family communication patterns, and the academic resilience of nursing students was conducted using Pearson's correlation coefficients.
- Factors affecting the academic resilience of nursing students were investigated using hierarchical regression.

4. Results

4.1 General Characteristics of the Subjects

The majority of participants were women ($n = 228$, 89.1%), and the mean age was 21.36 ± 2.66 (range 19-43). There were 145 freshman participants (56.6%), and most participants had 4-5 family members ($n = 202$, 82.3%). Most participants were the youngest ($n = 98$, 38.3%) or oldest ($n = 89$, 34.8%) children in their families. The majority of participants perceived their economic status as "middle" ($n = 188$, 73.4%), and 118 participants (46.1%) indicated that they lived with their family. Most participants indicated "no religion" ($n = 145$, 56.6%) and rated their interpersonal relationships as "good" ($n = 139$, 53.1%). "Positive" personality was indicated by 126 participants (49.2%), and "fair" academic achievement was specified by 171 participants (66.8%) Table 1.

Table 1. General characteristics

Characteristics	Categories	n	%
Sex	Male	28	10.9
	Female	228	89.1
Age	≤ 20	120	46.9
	21~24	212	47.3
	$25 \leq$	15	5.9
Grade	Freshman	145	56.6
	Sophomore	72	28.1
	Junior	14	5.5
	Senior	25	9.8
Number of family member	≤ 3	34	13.3
	4~5	202	78.9
	$6 \leq$	20	7.8
Birth order	Oldest	89	34.8
	Middle	43	16.8
	Youngest	98	38.3
	Only child	26	10.2
Perceived socioeconomic status	High	25	9.8
	Middle	188	73.4
	Low	43	16.8

Residential whether with family	With family	118	46.1
	Alone	138	53.9
Religion	Have	111	43.4
	None	145	56.6
Interpersonal relationship	Good	136	53.1
	Fair	114	44.5
	Poor	6	2.3
Personality	Positive	126	49.2
	Intermediate	118	46.1
	Negative	12	4.7
Academic achievement	Good	58	22.7
	Fair	171	66.8
	Poor	27	10.5

4.2 Interpersonal-communication Competence, Family Communication Patterns and Academic Resilience according to the General Characteristics

There were differences in interpersonal-communication competence according to age ($F = 3.42$, $p = .034$), perceived socioeconomic status ($F = 5.99$, $p = .003$), interpersonal relationships ($F = 24.59$, $p < .001$), personality ($F = 13.89$, $p < .001$), and academic achievement ($F = 5.96$, $p = .003$).

Difference in conversation-oriented family communication patterns were observed according to whether participants resided with family ($t = -2.25$, $p = .025$), interpersonal relationship ($F = 6.70$, $p < .001$), and personality ($F = 16.80$, $p < .001$). There were differences in conformity-oriented scores according to grade ($F = 10.788$, $p < .001$), number of family members ($F = 4.95$, $p = .008$), and birth order ($F = 3.64$, $p = .013$).

Academic resilience differed according to perceived socioeconomic status ($F = 3.40$, $p = .035$), interpersonal relationship ($F = 12.96$, $p < .001$), personality ($F = 6.94$, $p = .001$), and academic achievement ($F = 13.60$, $p < .001$) Table 2.

4.3 Correlations between Interpersonal-communication Competence, Family Communication Patterns, and Academic Resilience

Interpersonal-communication competence was correlated with conversation-oriented family communication patterns ($r = .55$, $p < .001$) and academic resilience ($r = .62$, $p < .001$). There was also a moderate correlation between conversation-oriented family communication patterns and academic resilience ($r = .55$, $p < .001$) Table 3.

Table 2. Interpersonal communication Competence, Family communication, Academic resilience according to General Characteristics

Characteristics	Categories	Interpersonal communication competence		Academic resilience		Family communication pattern				
		M(±SD)	t or F	p Scheffe	M(±SD)	t or F	p Scheffe	M(±SD)	t or F	p Scheffe
Sex	Male	100.1(12.96)	-0.39	.695	682(1220)	-0.23	.814	278(698)	0.04	.963
	Female	101.0(10.83)			688(11.19)			277(655)		
Age	≤ 20	102.3(10.80) ^a	3.42	.034	689(1096)	1.12	.328	381(646)	1.44	.238
	21~24	100.2(10.69) ^b		(a>c)	690(1053)			370(795)		
	25 ≤	95.0(14.09) ^c			645(1805)			352(754)		
Grade	Freshman	101.1(9.85)	0.61	.608	687(1109)	0.75	.523	380(651)	1.81	.146
	Sophomore	100.4(12.42)			680(1029)			358(803)		(a>bcd)
	Junior	98.0(11.49)			672(1011)			373(566)		
	Senior	102.8(13.38)			717(1529)			388(936)		
Number of family member	≤3	100.2(12.43)	1.83	.162	699(1265)	0.21	.807	372(798)	0.24	.782
	4~5	101.4(10.14)			685(1056)			374(709)		(a>b)
	6≤	96.6(16.16)			684(1570)			385(817)		
Birth order	Oldest	103.0(9.71)	1.74	.159	703(1023)	1.04	.373	381(700)	0.50	.678
	Middle	100.2(9.40)			678(1000)			366(699)		(a<d)
	Youngest	99.8(12.29)			675(1206)			372(742)		
	Only child	98.7(12.41)			687(1351)			375(830)		
Perceived socioeconomic status	High	96.3(15.82) ^a	5.99	.003	666(1287) ^a	3.40	.035	370(869)	2.10	.124
	Middle	102.3(10.20) ^b		(a<b)	698(1088) ^b		(b>c)	379(685)		.639
	Low	97.3(10.29) ^c			653(1141) ^c			355(798)		
Residential whether with family	With family	99.5(12.09)	-1.84	.066	665(1166)	-2.86	.004	363(766)	-2.25	.025
	Alone	102.0(10.00)			706(1065)			384(683)		.072
Religion	Have	101.1(10.33)	0.33	.740	678(1008)	-1.19	.232	377(701)	0.56	.572
	None	100.7(11.62)			694(1211)			372(749)		.188
Interpersonal relationship	Good	104.4(11.04) ^a	24.59	<.001	708(1224) ^a	12.96	<.001	389(669) ^a	6.70	.001
	Fair	97.6(9.07) ^b		(a>b>c)	672(867) ^b		(a>b>c)	358(744) ^b		(a>b)
	Poor	81.8(8.32) ^c			498(1217) ^c			336(1007) ^c		
Personality	Positive	104.1(10.80) ^a	13.89	<.001	713(1163) ^a	6.94	.001	398(622) ^a	16.80	<.001
	Intermediate	98.3(9.99) ^b		(a>b,c)	664(1041) ^b		(a>b)	356(738) ^b		(a>b,c)
	Negative	91.9(12.92) ^c			640(1024) ^c			308(798) ^c		
Academic achievement	Good	104.1(10.65) ^a	5.96	.003	738(993) ^b	13.60	<.001	375(725)	1.25	.286
	Fair	100.6(10.74) ^b		(a>c)	682(1082) ^b		(a>b>c)	377(714)		
	Poor	95.5(11.94) ^c			609(1206) ^c			353(813)		.298

Table 3. Correlation of interpersonal communication competence, family communication pattern and academic resilience

r (p)		Interpersonal communication Conversation-oriented	Family communication pattern		Academic resilience
			Conformity-oriented		
		r (p)	r (p)	r (p)	
Interpersonal communication competence		1			
Family communication pattern	Conversation-oriented	.55(<.001)	1		
	Conformity-oriented	-.08(.195)	.06(.317)	1	
Academic resilience		.62(<.001)	.55(<.001)	-.01(.921)	1

4.4 Factors Influencing Academic Resilience

An examination of the tolerance limits and Variance Inflation Factor (VIF) to determine the multicollinearity of the independent variables revealed that there were no cases of multicollinearity tolerance less than 8.0.

In step 1 of the hierarchical regression model, the influence of the general characteristics of the participants on academic resilience accounted for 19.4% of the variance ($p < .001$), and the general characteristics affecting academic resilience included whether they resided with their family ($p = .003$), interpersonal relationships ($p = .046$), personality ($p = .028$), and academic achievement ($p < .001$). After adding interpersonal communication competence and family communication patterns as variables in the second step, explanatory power increased to 49.2 percent. Academic achievement ($p < .001$), interpersonal-communication competence ($p < .001$), and conversation-oriented family communication pattern ($p < .001$) were identified as affecting the variables.

5. Discussion

This study of nursing students 'interpersonal communication competence, family communication patterns, and academic resilience, and the determine of the irrelevant relationship, and communication factors to determine their effect on academic resilience were carried out to provide basic data in order to develop strategies for increasing academic resilience.

The results of this study demonstrated that academic resilience was significantly correlated with

interpersonal- communication competence and conversation-oriented family communication patterns. Interpersonal-communication is adapted to the surroundings of individuals and to interpersonal skills for proper cooperation with others to achieve mutual objectives¹⁴, self-expression is subject to certain acts affected by an individual's communication skills¹⁵.

Within the compliance-oriented type of family communication patterns parents exercise their authority so that their children follow the opinions of the parents and avoid free debate, disagreements or altercations. In the context of controversy you could hurt your opponent's feelings, so hiding your own opinion is emphasized to avoid situation that can become headaches in relation to what others say about you. In contrast, the conversation-oriented communication pattern is supportive, fostering open communication and encouragement with an emphasis on the discussion of new ideas and issues, without fear of punishment, to be able to actively express opinions and claims¹⁶. Therefore, this type is considered as helping to improve interpersonal-communication competence.

When you feel a lack of interpersonal-communication competence, social interactions are negative and there is a decrease in self-expression. Individuals with high level of communication skills tend to express their ideas more effectively¹⁷. Therefore, there is a significant relationship between interpersonal-communication and academic stress associated with academic resilience and interventions for improving interpersonal-communication precede improvements in academic stress.

Table 4. Factor associated with academic resilience

Model		Beta	SE	t	p	R ²	F(p)
1	(constance)		5.72	15.54	<.001	.194	5.26(<.001)
	Residential whether with family	.172	1.32	2.95	.003		
	Interpersonal relationship	-.133	1.37	-2.0	.046		
	Personality	-.143	1.25	-2.20	.028		
	Academic achievement	-.251	1.23	-4.09	<.001		
2	(constance)		8.39	1.46		.492	18.33(<.001)
	Academic achievement	-.223	0.97	-4.58	<.001		
	Interpersonal communication	.418	0.06	6.94	<.001		
	Conversation-oriented	.328	0.08	5.74	<.001		

The results of this study indicate whether individuals reside with family, as well as their interpersonal relationships and personality were significant factors influencing academic resilience. Kim’s² academic resilience measurement tool was based on personal factors, such as developing a positive attitude, self-control, learning control and assignment of responsibility; and on interpersonal relationships, such as support by friends and parent. Therefore, high academic resilience means that the private areas of personality and part of the relationship with others, including residing with family, and interpersonal relationship can be significantly affected. Academic resilience refers to the ability to successfully overcome difficulties in learning and involves psychological factors and interpersonal relationships as essential factors for the individual¹⁸. Therefore, an approach that considers improvements in academic resilience is deemed necessary.

The results of this study on academic achievement and interpersonal-communication revealed significant factors influencing academic resilience. The results of Park and Lee’s¹⁹ study demonstrated that high academic resilience was associated with higher student academic achievement, and even with higher class participation and less academically deviant behavior. Students with high student academic resilience experience stress or crisis situations and overcome them well due to their display of outstanding achievement in cognitive aspects, as well as a variety of problem-solving strategies²⁰. Because higher academic achievement indicators signify high, academic resilience, remediation efforts addressing the many ways to improve academic resilience are requires improving academic achievement.

According to ²¹ results that showed a positive effect of open communication on the elasticity factor, improved resilience in positive communication had a positive

impact on academic factors to reduce academic burn-out. Positive communication helps to form a stable and reliable environment for individuals and others, facilitates the active and free expression of opinions through positive emotions, and resolves stress. Therefore, priority should be given to the improvement of communication competence in order to improve academic resilience.

Conversation-oriented family communication patterns were revealed as a significant influencing factor for academic resilience. According to the results of Lee²², college students with conversation-oriented communication patterns with their parents had lower level of anxiety than did students with authoritative type of communication patterns. Not only does the love of a parent form stable emotions affect various social skills, and improve communication skills, love and acceptance promote a feeling of safety gained through relationships with family to promote self-esteem and coping strategies for adolescents due to adaptation and well-being that help in situations that cause stress²³. Students with high anxiety and low class satisfaction and low academic achievement do not choose a major or directly participate in many lessons, have low level of motivation, and demonstrate a tendency to pay less attention to the learning content²². Therefore, efforts to actively induce a conversation are needed in order to improve the academic resilience.

Further study is recommended to identify changing patterns with the passage of time to advance research of the identified factors influencing academic resilience with a variety of targeted students.

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