

Effectiveness of an Interpersonal Relationship Program on Interpersonal Relationships, Self-esteem, and Depression in Nursing Students

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Purpose: The purpose of this study was to examine the effectiveness of an interpersonal relationship program on interpersonal relationships, self-esteem, and depression in nursing students. **Methods:** This was a quasi-experiment with a nonequivalent control group pre-posttest design. Sixty-four nursing students participated in the study with 31 in the experimental group and 33 in the control group. They were from 3 different colleges of nursing located in Seoul. The interpersonal relationship program was held 10 times over 10 weeks, taking 90 minutes per session. The interpersonal relationship change scale developed by Schlein and Guemey, Rosenberg's self-esteem scale, and CED-S for depression were the instruments used in the study. The data collection period was from January 4 to March 8, 2011, and the collected data were analyzed with SPSS 14.0 using the X²-test, t-test, and paired t-test. **Results:** The results showed a significant difference between the experimental group and the control group in terms of the degree of interpersonal relationships, self-esteem, and depression. **Conclusion:** The results indicate that interpersonal relationship programs have positive effects for improving interpersonal relationships and self-esteem, and decreasing depression in nursing students.

Key words: Students, Nursing, Interpersonal relations, Self concept, Depression

INTRODUCTION

People everywhere need to interact with other people to develop their own identity and to satisfy their own personal needs for affection and a sense of belonging. Interpersonal relationships are important in every stage of human development since they are one of the preconditions for a person's survival, adaptation, and happiness. College students, in particular, are at a stage in their growth where recognition and a sense of belonging attained through harmonious relationships within their peer group become critical factors (Lee, 2011). The interpersonal skills acquired during the college years are essential in maintaining a healthy and satisfying social and work life after college graduation (Ju, Park, & Jin, 2010).

Even though interpersonal skills are very important to the development of college students, it is reported that Korean college students are experiencing many difficulties and are under heavy stress due to a lack of these skills (Park, 2009; Song, 2008).

From the lack of both varied and satisfactory interpersonal experiences, university students undergo a wide range of emotional distress, suffering from feelings of depression, anxiety, frustration, isolation, and emptiness, among others. These psychological disorders can cause further problems in adapting to university life and, at worst, may result in complete failure at college life (Kim, 2009). While interpersonal skills are important for everyone in life, these skills take on a particular importance for nursing students, as the nursing profession requires constant contact and interaction with patients and their

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families, colleagues, and other healthcare providers. High quality nursing service should be built on good interpersonal relationships (Suikkala, Leino-Kilpi, & Katajisto, 2008).

In fact, nursing students experience more difficult interpersonal situations, and consequently, are under more stress than students majoring in other subjects. In addition, relations with patients, their families, and nursing colleagues during clinical training are the main contributors to stress (Magnussen & Amundson, 2003). On the other hand, satisfactory and positive feedback from interpersonal relationships not only encourages nursing students to recognize their strengths and weaknesses, but also to be more confident. In particular, positive relationships with patients help nursing students to better understand patients' situations and points of view. Furthermore, these positive relationships also assist students to acquire other potential techniques necessary for high-quality nursing. In other words, positive relationships have great influence on the growth of nursing students' professional careers (Suikkala et al., 2008). Consequently, nursing students need to be more skilled and confident in their interpersonal relationships both for a better college life and to help them prepare for their future careers.

Successful interpersonal relationships are closely associated with the various different social and psychological elements such as mental cognition, emotion, behavioral characteristics, and types of interactions (Kim & Park, 2010). Self-esteem and depression are elements most widely considered among these.

Self-esteem is composed of both an appraisal of self-worth based on personal achievements and anticipation of evaluation by others. People, including college students, with low self-esteem tend to be less adaptable to interpersonal relationships. In contrast, high self-esteem gives people a competent and positive self-image, leading to self-confidence and active participation in interpersonal relationships (Murray, Holmes, & Collins, 2006). Self-esteem is therefore clearly associated with interpersonal relationships (Eom & Choi, 2010).

Depression is known to be one of the contributing factors limiting the interpersonal relationships of college students. At the same time, it is the most common psychological disorder, with an occurrence rate of over 20% in college students from Pacific Asian (Nelson & Gregg, 2010; Steptoe, Tsuda, Tanaka, & Wardle, 2007). Among Korean nursing students, depression is also the top ranking psychological problem (Kim & Kim, 2006).

A well-known predictor of depression is stress. In particular, inter-

personal stress increases an individual's sensitivity to interpersonal relationships and in turn, distorts situations, causing negative perceptions. Eventually, interpersonal stress contributes to the incidence of depression. People with depression have poor interpersonal problem solving skills, which causes more stress in interpersonal relationships. This additional stress then reinforces the feelings of depression, creating a vicious circle (Aanes, Mittelmark, Hetland, 2010; Berry & York, 2011).

As discussed earlier, nursing students undergo significantly more stress than students in other fields and are vulnerable to depression. Taking these facts into consideration, an integrated and systematic program is necessary to enhance interpersonal relationships and self-esteem and to reduce depression among these students.

Several previous studies have been done on the interpersonal relationships of nursing students, due to the growing importance of this subject. These studies include Gordon's parent effectiveness training (Yoon & Koh, 2004), as well as studies on therapeutic recreation (Kim & Kim, 2008), solution-focused communication training (Kim, 2009), and rational emotive training (Choi, Lee, Jung, & Lee, 2009). All of these methods were proven to be effective in improving interpersonal relationships. However, no research has yet been done on the effect a program has on interpersonal relationships, self-esteem, and depression. Additionally, various programs have been implemented to improve the interpersonal relationships of college students, but these are focused on an individual's specific personality or certain features of interpersonal relationships. Thus, these programs have not incorporated the intrinsic nature of interpersonal relationships, which are dynamic and complex (Park, 2009). From this perspective, the aim of the current study was to confirm the effect of interpersonal relationship program designed by Park on interpersonal relationships, self-esteem, and depression in nursing students. This program is an integrated interpersonal relationship program developed to address the limitations of previous programs. It applies a harmony of concepts between an individual's inner features, including perception, emotion, and behavior, and interrelations with others.

Specifically, the following hypotheses were tested: (a) nursing students who participated in the interpersonal relationship program will show a significantly greater improvement in their interpersonal relationship scores than those in the control group; and (b) nursing students who participated in the interpersonal relationship program will show a significantly greater improvement in their self-esteem

scores than those in the control group; and (c) nursing students who participated in the interpersonal relationship program will show a significantly greater decrease in their depression scores than those in the control group.

METHODS

1. Design

This was a quasi-experiment with a nonequivalent control group pre/posttest design to confirm the effectiveness of the interpersonal relationship program (Park, 2009) on improving interpersonal relationships and self-esteem and decreasing depression in nursing students.

2. Sample

The participants in this study were nursing students from A, B, and C colleges located in Seoul. Students with no ongoing physical illnesses or history of mental illness were selected. Those who scored over 28 on a depression test were excluded and were provided referrals for further evaluation. Ultimately, the experimental participants were selected from among A college nursing students (35 participants), while the control participants were selected from among nursing students at B college (24 participants) and C college (11 participants). Out of concern for spreading the effectiveness of the experiment, one group of college students was designated as the experimental group and the other group of college students who were similar to the participants of the experimental group was designated as the control group.

A power analysis was performed to detect the likelihood that the study would yield a significant effect. In total, 34 participants for each group were needed to detect the average difference between the two groups with an effect size of .70, alpha set at .05 and power of the test (1-beta) at .80. Based on this, 35 participants for each group, which allowed for possible dropouts, were selected. Four participants in the experimental group dropped out because of illness or personal reasons. Two participants in the control group were excluded because they did not complete the post-program survey. Ultimately, 31 participants from the experimental group and 33 from the control group were included in the final analysis. Approvals from the IRBs (Institu-

tional Review Boards) were obtained according to their regulations, which protect research applicants (IRB 2010-7-3). The participants signed an informal consent that contained the following: The purpose of the study, study procedure, and content of the intervention program. Students were informed that participation was voluntary and that they could quit the study at any time. They were also told that their responses would remain confidential. After the study, the participants in the control group were given 5 sessions with the experimental program.

3. Procedures

The research was conducted between January 4, 2011 and March 8, 2011. The main intervention administrator was a psychiatric mental health practitioner with a doctoral degree in psychiatric nursing, with previous experience in group therapy. The assistant was a psychiatric mental health nurse with a master's degree, with over 5 years of experience at a mental health clinic.

The study had three phases: a pre-program survey, the interpersonal relationship program, and a post-program survey. In the pre-program survey, participants were asked to fill out a self-report questionnaire describing their general characteristics, interpersonal relationships, self-esteem, and symptoms of depression. The researchers collected the questionnaire sheets on-site as the participants finished. The same method was used for the control group.

The program was conducted for 10 weeks, with one 90-minute session held each week. Participants met every Tuesday in a lecture room at a college, and they were divided into 3 groups for morning and afternoon sessions. Before each week's presentation, the researchers met to confirm and re-examine the program contents and purpose and to prepare for the session. Each session was divided into three stages: introduction, development, and conclusion.

The introduction and conclusion took about 10 minutes each week; most of the time was spent on developing the topic for that week. At the first session, participants were provided with refreshments, informed of the purpose of the research, and given the assignment for next session. At the second session, they had their assignment checked, with time provided to share it with the group, and then moved on to that week's topic as scheduled. At the final session, the researchers were given time for sharing experiences related to the program with participants. The experimental group was given the post-program

survey right after the last program session ended. The control group also received the survey 10 weeks after the pre-program survey, using the same format about interpersonal relationships, self-esteem, and depression.

4. Interpersonal relationship program

Park's interpersonal relationship program (2009) was used for this study. Park's program aims to improve university students' interpersonal relationships by finding balance and harmony in one's cognition, emotion, behavior, and interaction with other people. The program has been examined for its effectiveness, and the details are provided in Table 1.

5. Instruments

The tools used in this study are publicly available at Seoul Mental Health Center and Gyeonggi province Mental Health Center.

1) Interpersonal relationships

The Relationship Change Scale developed by Schlein and Guernsey

(1971) and translated by Moon (1980) was used as a measure of interpersonal relationships. There were 25 questions with a 1 to 5 scale (1, very dissatisfactory; 5, very satisfactory) with the total score ranging from 25 to 125. The higher the score is, the higher one's interpersonal relationship satisfaction is. The Cronbach's α was .87.

2) Self-esteem

Rosenberg's (1965) Self-Esteem Scale with a 4-point scale was used. This scale has 10 questions, with 5 questions each for positive and negative self-esteem. The scale ranges from 1 point for "strongly disagree" to 4 points for "strongly agree", suggesting that the higher the score is the higher one's self-esteem is. The Cronbach's α was .74.

3) Depression

The Korean version of the CES-D translated by Chon and Rhee (1992), which was originally conceived by Radloff (1977), was used. This instrument has 20 questions in total, asking participants to rate symptoms on a scale ranging from "none" (0) to "sometimes" (1), "moderate" (2), and "frequently" (3). Total scores ranged from 0 to 60, with higher scores indicating higher degrees of depression. The Cronbach's α was .77.

Table 1. Contents of Interpersonal Relationship Program

Session	Purpose	Theme	Content
1	Orientation for the groups and pre-experiment survey	Inform members of the process for the program Pre-experiment survey Develop group members' unity	Establishing rapport -Introduce group members, researchers, group rules, purpose, content, and the process of each session Developing the unity of group members
2	Understanding oneself	Understanding oneself Understanding about positive and negative interpersonal relationships	Understanding oneself and the importance of interpersonal relationships by sharing the experience of positive and negative interpersonal relationships
3	Expression of emotions from negative interpersonal relationships	Showing emotions and reducing anxiety	Expressing emotions from negative interpersonal relationships and learning a muscle relaxation technique to reduce anxiety
4	Exploring interpersonal thinking	Rational thinking (Ellis's theory)	Understanding irrational beliefs and turning them into positive thinking by a rational-emotional approach
5	Understanding interpersonal relationship behavior	Expressing oneself by using "I-message"	Acquiring skills for interpersonal relationships using "I-message"
6	Understanding others	Understanding others by attentive hearing	Promoting interpersonal interactions through empathizing and active listening
7	Enhancing interpersonal interaction	Effective communication training: "Warm attitude" "Empathize" "Active listening"	Understanding behaviors and thinking of oneself and others by practicing expressing one's thoughts, emotions and opinions to others in a respectful way
8	Becoming "Together"	Solving interpersonal problems	Understanding countermeasures with interpersonal problems, coming up with better relationships through negotiations
9	Turning to positive thinking	Accepting oneself with gratitude	Verbalizing a thankful mind to people, having positive thinking and self-acceptance
10	Positive feedback	Check achievement level Post-experiment survey	Share opinions about participating in this program Exchange positive feedback within the group

6. Data analysis

The collected data were analyzed using the SPSS 14.0 statistics program, and the detailed analyses are as follows. The general characteristics of the experimental group and control group were calculated by frequency and percentage rate. A homogeneity test between the two groups was done using the two-tailed test and χ^2 -test with a significance of .05. To verify the normality of the interpersonal relationship, self-esteem, and depression data for each group, a homogeneity test was done using the two-tailed test and student's t-test with a significance of .05. The data normality verification done by t-test was used to compare the intervention effects of the program on participants' interpersonal relationships, self-esteem, and depression. Comparisons of interpersonal relationships, self-esteem, and depression before and after the program were made with the paired t-test in each group.

RESULTS

1. Homogeneity in general characteristics

Sixty-four participants finished the interpersonal relationship pro-

gram: 31 from the experimental group and 33 from the control group. The homogeneity test for the two groups' general characteristics showed no significant differences in all 10 characteristics. This suggests the groups were similar to each other (Table 2). Marital status and monthly allowance under 500,000 won applied equally to both groups, so these items were excluded from the analysis.

2. Homogeneity in interpersonal relationships, self-esteem, and depression

The homogeneity test results for interpersonal relationships, self-esteem, and depression before the start of the program are shown in Table 3. No significant difference was seen between the two groups for interpersonal relationships: the experimental and control groups had mean scores of 83.32 and 85.49 ($t = 0.85$, $p = .392$), respectively. Self-esteem scores also showed no significant difference: the experimental and control groups had mean scores of 27.55 and 28.67 ($t = 1.19$, $p = .240$), respectively. There was also no significant difference in depression: the experimental and control groups had mean scores of 20.29 and 18.94 ($t = 1.18$, $p = .242$), respectively. Consequently, the two groups were the same in regards to the 3 variables with no significant

Table 2. Homogeneity Test of General Characteristics between Experimental and Control Groups

($N = 64$)

Variables		Experimental ($n = 31$)	Control ($n = 33$)	χ^2	p
		n (%)	n (%)		
Age (yr)	19-20	25 (80.6)	24 (72.7)	4.05	.132
	21-29	6 (19.4)	9 (27.3)		
Education	High school	29 (93.5)	32 (97.0)	0.42	.607
	College/University	2 (6.5)	1 (3.0)		
Religion	Yes	18 (58.1)	18 (54.5)	0.08	.777
	No	13 (41.9)	15 (45.5)		
Perceived living status	Middle	27 (87.1)	24 (72.7)	1.96	.162
	Low	4 (12.9)	9 (27.3)		
Health problem	Yes	1 (3.2)	2 (6.1)	0.29	1.000
	No	30 (96.8)	31 (93.9)		
Regular exercise	Yes	2 (6.5)	3 (9.1)	0.16	1.000
	No	29 (93.5)	30 (90.9)		
Distance to school	-1 hr	16 (51.6)	18 (54.5)	0.06	1.000
	Over 1 hr	15 (48.4)	15 (45.5)		
Residence	Own-home	27 (87.1)	24 (72.7)	2.39	.303
	Non-owned house	4 (12.9)	9 (27.3)		
Nursing satisfaction	Yes	28 (90.3)	30 (90.9)	0.01	1.000
	No	3 (9.7)	3 (9.1)		
College satisfaction	Yes	16 (51.6)	22 (66.7)	1.50	.309
	No	15 (48.4)	11 (33.3)		

differences prior to the intervention.

3. Effects of interpersonal relationship program

The experimental group's interpersonal relationship scores rose 5.39 points over the pre-program scores, whereas the control group scores showed a decrease of 0.67 points. There was a significant difference between the two groups ($t = 3.38, p = .001$) (Table 4).

The experimental group's degree of self-esteem also rose, with post-program scores 2.26 points higher than pre-program scores in the experimental group, while the control group demonstrated a decrease of 0.15 points in scores. There was a significant difference between the two groups ($t = 3.18, p = .002$) (Table 4).

The experimental group's degree of depression showed a decrease of 5.13 points from pre-program scores to post-program scores, whereas control group scores only dropped 1.06 points. There was a significant difference between the two groups ($t = 2.45, p = .017$) (Table 4).

DISCUSSION

This research was conducted to investigate the effectiveness of the interpersonal relationship program (Park, 2009) in improving interpersonal relationships and self-esteem and decreasing depression in nursing students.

The experimental group showed a significant improvement in interpersonal relationships after the interpersonal relationship program.

Table 3. Homogeneity Test of Interpersonal Relationships, Self-esteem, Depression (N = 64)

	Experimental (n=31) Mean (SD)	Control (n=33) Mean (SD)	t	p
Interpersonal relationships	83.32 (8.85)	85.49 (11.03)	0.85	.392
Self-esteem	27.55 (3.02)	28.67 (4.36)	1.19	.240
Depression	20.29 (4.56)	18.94 (4.58)	1.18	.242

These findings are consistent with those of Park (2009), who reported that male and female college students who participated in the interpersonal relationship program experienced a significant increase in interpersonal relationships compared to those in the control group. The results can be interpreted as the interpersonal relationship program enabling participants to maintain balance between their cognition, emotion, and behavior, and to interact with other people with these processes functioning systematically (Kim & Park, 2010; Park). These factors are thought to have influenced the students' improvement in interpersonal relations.

The current study results are also similar to the findings of other studies, such as Eom and Choi's (2010) group counseling program for Chinese college students in Korea, Song's (2008) self-assertiveness training program for university students, Yoo's (2008) communication training program, and Kim's (2009) solution-focused communication training for nursing students, which have demonstrated improvement in students' interpersonal relations after the implementation of these programs.

Key factors determining the quality of interpersonal relationships are not how many times or how frequently one engages in social interactions, but rather the experience of having caring relationships with others (Aanes, Mittelmar, & Hetland, 2010). Namely, the feeling of being understood, valued, and supported by other people helps establish and maintain satisfactory relationships (Canevello & Crocker, 2010). It is thought that the responsive relationship built among group members while responding to and supporting each other's thoughts and feelings was a key contributing factor to overall better interpersonal relationships in the present study.

It has been suggested that avoiding self-expression and lacking understanding of oneself are the main reasons for difficulties in building good interpersonal relationships (Kim, 2009). In other words, the willingness to disclose personal information to others and verbally communicate with others should be the foundation for developing

Table 4. Effects of Interpersonal Relationship Program on Interpersonal Relationships, Self-esteem, and Depression (N = 64)

	Experimental (n=31)			t (p)	Control (n=33)			t (p)	t (p)
	Pre Mean (SD)	Post Mean (SD)	Difference Mean (SD)		Pre Mean (SD)	Post Mean (SD)	Difference Mean (SD)		
Interpersonal relationships	83.32 (8.85)	88.71 (10.07)	5.39 (6.65)	4.51 (<.001)	85.49 (11.03)	84.82 (11.09)	0.67 (7.62)	0.50 (.619)	3.38 (.001)
Self-esteem	27.55 (3.02)	29.81 (3.25)	2.26 (2.56)	4.92 (<.001)	28.67 (4.36)	28.52 (4.01)	0.15 (3.41)	0.26 (.80)	3.18 (.002)
Depression	20.29 (4.56)	15.16 (6.14)	5.13 (6.45)	4.43 (<.001)	18.94 (4.58)	17.88 (6.52)	1.06 (6.84)	0.89 (.390)	2.45 (.017)

and maintaining interpersonal relationships (Forgas, 2011; Place, Todd, Penke, & Asendorph, 2009). In the current program, participants verbalized and shared their personal experiences and thoughts with one another during each session. This experience is believed to have had a positive influence and helped participants to understand other group members well. This program also provided them with communication skills training, focusing on concepts such as "I-message", "delivering warm attitude", "empathize", and "active listening", which are thought to have been contributing factors to improving interpersonal relationships. The effectiveness of these factors was already investigated by Yoo's (2008) research on communication training programs including I-message, active listening, problem solving, and assertiveness training, which resulted in better interpersonal relationship abilities.

Since no previous research has been done on self-esteem using the program studied here, the effectiveness cannot be directly compared, and other interpersonal relationship programs used with college students will be discussed as a result. As mentioned earlier, the experimental group's self-esteem improved after the program compared to the control group. This was in agreement with the results of Kim and Kim's (2009) study: freshmen in a women's university had a higher level of self-esteem after participation in a self-esteem improvement program. This also conforms to the study results of Kim and Kim (2008), who reported that a therapeutic recreation program enhanced the self-esteem of nursing students. Eom and Choi's (2010) study suggested that a group counseling program including a method of understanding oneself and others, as well as self-acceptance and other-acceptance, was also effective in increasing self-esteem. In light of the above research results, it is believed that the participants of this current study were trained to empathize, understand themselves and others, and accept themselves, since these factors play a key role in enhancing self-esteem. In the current program, participants were trained to explore and correct the emotions and irrational beliefs they experienced through negative interpersonal interactions in college life or nursing practice. It is believed that the process of changing irrational beliefs to rational beliefs worked positively to improve self-esteem in the current study. This result is in agreement with the results of Choi, Lee, Jung, and Lee's (2009) study, which found that rational emotive behavioral training, helping to maintain positive and self-advancing thinking instead of negative and self-defeating thinking, enhanced self-esteem.

The experimental group in the current study showed a significant decrease in depression scores after attending the interpersonal relationship program. Since no previous research has been done on depression when using this program, the effectiveness cannot be explained through direct comparison. However, decreased depression was also reported by Kim and Kim (2008) in a study using therapeutic recreation with nursing students. In sessions 3 and 8 of the current program, participants put themselves in a supportive and empathizing interaction by exploring and verbalizing emotions and thoughts from negative interpersonal experiences. Sharing, empathizing, and accepting interpersonal experiences were considered to decrease the level of depression. This view is supported by Kim, Kim, and Park's (2011) study on a depression-reducing program for female university students: verbal interaction and teamwork in peer groups helped the students identify positive things about themselves and form constructive views, which altogether contributed to reduced depression. Park, Back, and Han's (2007) study on rational emotive behavior group counseling with nurses confirmed that turning irrational beliefs into rational beliefs improved self-esteem and decreased depression, which was also the case for the participants in the current study. In other words, it is thought that improvement in self-esteem is connected to the relief of depression among nursing students in this study.

The interpersonal relationship program used in the study discussed here was found to be effective for reducing depression and enhancing both self-esteem and interpersonal relationship competency.

Nursing students should have competency in interpersonal relationships based on positive self-esteem, to enable them to provide high-quality nursing through relationships with various people in a healthcare setting. Training and education to foster this competency should start at an early stage in university education in a systematic manner.

The program utilized here was able to help nursing students adapt to their college life and build up their vocational competence at an early stage. This research is found to be worthwhile in this respect. Another point is that this program can offer the opportunity to learn about interpersonal relationships to college students whose exposure to such relationships was limited due to excessive competition during their primary and secondary education. Because this study focused on a small number of nursing students attending three colleges in a certain city, it has its limits and the study results may not be generalized to all college nursing students.

CONCLUSION

The aim of this research was to investigate the effectiveness of the interpersonal relationship program in improving interpersonal relationships and self-esteem and decreasing depression in nursing students. The present study found that the interpersonal relationship program is useful as an intervention to improve interpersonal relationships and self-esteem and to reduce depression among nursing students. We suggest the following, based on the results.

First, this program can be introduced to novice nurses in their training program to help them decrease stress related to interpersonal relationships and adapt to the hospital system. Wider applications can be suggested to more varied nursing situations with more diverse subjects.

Second, future research using a quantitative approach mixed with a qualitative analysis can be conducted to understand which parts of the program and content are felt by the participants to be most helpful so the program can be modified and supplemented.

Third, this program can be used as a basis for a practice program in foundation courses at nursing schools, such as Human Relationship or Communication courses. Student counseling centers can also adopt this program as a regular program for maladjusted and mildly depressed nursing students.

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