The Effects of Writing a Gratitude Diary and Sharing Thoughts on the Psychological Well-being of the Students

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Abstract: The purpose of this study is to develop a specific program that can promote the psychological well-being of middle school students by studying 27 third-grade middle school girls in Daejeon in three groups according to their wishes. Gratitude diaries allowed the researcher to record 12 gratitude statements and three short sentences in 4 weeks. Unlike comparison groups, experimental groups shared their gratitude contents with researchers and participants for 20 minutes a week and conducted follow-up tests. The results of the tests were analyzed through SPSS20 and SAS5.2 and one-way ANOVA using a general linear model was conducted after obtaining the average and standard deviation of gratitude propensity, kindness propensity, psychological well-being, and comparison groups with independent variables. A summary of the main findings of this study is as follows: As a result of Study 1, it was confirmed that writing gratitude diaries and sharing of thoughts did not have a significant impact on individuals' audit tendencies due to statistical figures, but they increased their tendency to be kind. Although writing gratitude diaries and sharing of thoughts did not bring significant differences between groups in middle school students' gratitude tendencies, it was confirmed that the experimental group had the highest gratitude tendency before and after conducting activities. In addition, writing gratitude diaries and sharing of thoughts brought very significant differences between groups in middle school students' tendencies of kindness. What should be noted in this study was that the average of the difference between pre- and post-testing of control groups responded positively even though they did not engage in writing gratitude diaries and sharing of thoughts. In Study 2, it was confirmed that writing gratitude diaries and sharing of thoughts had a positive effect on individual psychological well-being compared to comparative groups. Participants can see that psychological well-being has been enhanced by finding the importance and appreciation of the environment surrounding them. In addition, it was analyzed that sharing contents has a significant effect on the self-acceptance and autonomy factors of psychological well-being.

Keywords: Writing a Gratitude Diary, Gratitude Tendency, Kindness Propensity, Psychological Well-being

1. Introduction

1.1 Purpose and Necessity of Research

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The average happiness level of South Korea measured for three years from 2012 to 2014 ranked 47th out of 158 countries, and 58th in the last three years (2013-2015)[1]. In this situation, the proportion of teenagers who reported having felt sad or hopeless enough to interfere with their daily lives accounted for 32.1% of men and 43.5% of women, accounting for 40% of teenagers[1]. Recent research and active psychology understand mental health as a state where individual strengths and abilities are expressed as much as possible, not as a lack of defects and damage, and suggest mental health growth models seeking individual happiness and growth as an alternative to disease models[2]. In response, the researcher chose two strengths: gratitude and kindness (good deeds) to write a gratitude diary and share her thoughts 12 times over four weeks, and then to verify the effectiveness by measuring gratitude tendencies, kindness tendencies, and psychological well-being. This study is intended to solve the difficulties of limited friendship due to the academic stress that teenagers are experiencing and lack of communication with friends.

1.2 Research Hypothesis

Research hypothesis 1 - Writing a gratitude diary and sharing one's thoughts on the individual's appreciation and it will have the following effects:

1-1. Writing a diary of good deeds and gratitude and sharing your thoughts will increase the tendency of gratitude.

1-2. Writing a journal of good deeds and gratitude and sharing your thoughts will increase your kindness.

Research hypothesis 2 - Writing a gratitude diary and sharing one's thoughts on the psychological well-being of an individual:

It will have the following effects:

2-1. The experimental group and the comparative group that conducted the gratitude diary will have a higher psychological sense of well-being than the control group.

2-2. The experimental group that conducted the speech sharing would have higher psychological well-being than the comparative group that did not.

2. Research Method

2.1 Subject to study

The subjects of this study were 27 female students in a third-grade middle school class located in the old downtown of Daejeon.

[Table 1] Subjects to Study

Sortation	Programs	Numbers
Experimental group	Writing gratitude diary and sharing the thoughts	9
Comparison Group	Writing gratitude diary	9
Control Group	None	9
Total		27

[Table 2] Ratio of the Composition of Research Subjects according to Birth Order, Grade, and Religion

Group Item		Number of experimental group cases (%)	Number of comparison group cases (%)	Number of Control group cases (%)	Total cases(%)
Birth order	First	2(22.2)	4(44.4)	4(44.4)	10(37.0)
	Second	2(22.2)	3(33.3)	3(33.3)	8(29.6)
	Third	1(11.1)	1(11.1)	1(11.1)	3(11.1)
	The youngest	4(44.4)	1(11.1)	1(11.1)	6(27.3)
Subtotal		9	9	9	27
Grade	High	6(66.7)	3(33.3)	0(0)	9(33.3)
	Mid	2(22.2)	2(22.2)	5(55.6)	9(33.3)
	Low	1(11.1)	4(44.4)	4(44.4)	9(33.3)
Subtotal		9	9	9	27
Religion	Yes	4(44.4)	2(22.2)	3(33.3)	9(33.3)
	No	5(55.6)	7(77.8)	6(66.7)	18(66.7)
Subtotal		9	9	9	27

2.2 Research Design and Research Procedures

In this study, two independent variables: gratitude tendency, kindness propensity, and psychological well-being, based on gratitude diary writing and sharing, were determined by the mean and standard deviation of each group. The collected data were analyzed using SPSS20 and SAS5.2.

[Table 3] Study Design

Experiemental Group O1 X Y O2			
Comparison Group	O3 X	O4	
Control Group	O5	O6	
O1, O3, O5: Pre-inspection (gratitude, kindness, psychological well-being, interpersonal satisfaction)			
O2, O4, O6: Post-inspection (gratitude, kindness, psychological well-being, interpersonal satisfaction)			
X: Writing gratitude diary Y: Sharing the content of gratitude			

After conducting preliminary tests on 27 middle school girls in the old city center of Daejeon, they were divided into three groups: an experimental group, a comparative group, and a control group. The experimental group and a comparative group would write 12 times in 4 weeks. The experimental group conducted a 20-minute weekly meeting with researchers and group members to share their

thoughts on the contents of the gratitude. Gratitude diaries were to be filled out in three sentences: the date, the contents of the good deed, and the contents of the good deed, and the feelings of the good deed. They were written in one or two sentences. Four weeks later, the experimental group, comparative group, and control group all performed the same post-test as the pre-test.

[Table 4] Research Procedures

Research Step	Content	Period
Pre-inspection	Gratitude tendencies, kindness tendencies, and psychological well-being	2016.09.12.
Groups	Each of the nine members shall be comprised of an experimental group, a comparative group, and a control group, according to their wishes.	2016.09.13
Programs	· Experimental group: Gratitude diary (3 times a week), and sharing the thoughts (once a week)	2016.09.19.
	· Comparison group: Gratitude diary (3 times a week)	~ 2016.10.16.
	· Control group: None	
Post-inspection	Gratitude tendencies, kindness tendencies, and psychological well-being	2016.10.17.

[Table 5] Programs

Groups	Programs
Experimental group	<ul style="list-style-type: none"> · 1 good deed and 3 gratitude contents, Write the thoughts in the gratitude diary (3 times a week) · Conduct a 20-minute speech sharing with researchers and group members in the counseling room once a week share the contents and feelings of the gratitude(once a week).
Comparison group	<ul style="list-style-type: none"> · 1 good deed and 3 gratitude contents, Write the thoughts in the gratitude diary (3 times a week) · Don't share the thoughts
Control group	<ul style="list-style-type: none"> · Not writing a gratitude diary. · Don't share the thoughts

2.3 Measurement Tools

2.3.1 Gratitude tendency scale(K-GQ-6)

The Gratitude Questionnaire-6: GQ-6 developed by McCullough et al. (2002) used the K-GQ-6 translated by Sunjung et al. (2006) in Korean. In this study, a five-point Likert scale was used by Kim Mi-jung (2009) to help middle school students understand. In a study of middle school students by Kim Mi-jung (2009), Cronbach's coefficient was reported to be .80[3-5].

[Table 6] Gratitude Tendency Scale (K-GQ-6)

Gratitude Tendency Scale (K-GQ-6)	Question number (* is reverse scoring)	Number of questions
	1, 2, 3*, 4, 5, 6*	6

2.3.2 A Measure of Kindness

It consists of a total of six questions and uses a five-point Likert scale of one to five points[6].

[Table 7] A Measure of Kindness

A measure of kindness	Question number (* is reverse scoring)	Number of questions
	1, 2, 3, 4, 5, 6	6

2.3.3 A Psychological Measure of Well-being

[Table 8] Psychological Well-being Measure (Kim Ki-hyung, 2006)

Components	Question number (* is reverse scoring)	Number of questions
Personal growth	1*, 16*, 24, 27*, 29*, 33*	6
Self-acceptance	2, 6, 13, 18, 28, 30	6
Positive interpersonal relationship	3*, 7*, 14*, 20, 34*	5
Autonomy	4, 10, 15*, 22, 26*, 31	6
Purpose of life	5*, 8*, 12*, 17*, 21, 25	6
Control over the environment	9, 11*, 19, 23, 32	5
Total		34

In order to measure psychological well-being, Ryff (1989), Kim Myung-so, Kim Hye-won, and Cha Kyung-ho translated the Psychological Well-being Scale (PWBS) developed into Korean, and Kim Ki-hyung used a five-point Likert scale[7-9].

2.4 Data Analysis Method

First, the data collected in this study were statistically processed using the PSS20 and SAS5.2 systems. Second, a one-way ANOVA (one-way ANOVA) was conducted using F verification for pre-, post-, and difference tests conducted on experimental groups, comparative groups, and control groups to find out the impact of gratitude diaries on psychological well-being. Third, the statistical method for measuring the reliability of the test tool was using the Cronbach's α . The students who participated in the study understood the purpose of the study and agreed to include personal information. However, this study did not include a significant number of students, and it was conducted on middle school students only, thus, it is difficult to generalize the overall results.

3. Research Results

This study was conducted to find out the effect of writing gratitude diaries and sharing thoughts on the psychological well-being of middle school students.

3.1 Analyze Test Response

3.1.1 The Impact of Writing a Gratitude Diary and Sharing the Thoughts on a Gratitude Propensity

The results of the analysis of variance in [Table 10] show that the F value is 0.20 and that there is no significant difference between groups with gratitude propensity at the significance level of 0.05. The result of this study is to reject the <Research Theory 1-1>, which says, "Writing a good conduct and gratitude diary and sharing the thoughts will increase the gratitude tendency."

[Table 9] Gratitude Pre-post-difference Verification Average and Standard Deviation

Dependent variable	Groups	Cases	Pre-Mean(SD)	Post-Mean(SD)	Difference-Mean(SD)
	All	27	3.62(0.85)	3.08(0.40)	-0.53(0.66)
Gratitude tendency	Experiment	9	4.07(0.69)	3.44(0.16)	-0.63(0.64)
	Comparison	9	3.41(1.02)	2.98(0.43)	-0.43(0.75)
	Control	9	3.39(0.85)	2.83(0.30)	-0.56(0.64)

[Table 10] Verification of Gratitude Propensity Differences (ANOVA)

Dispersion source	Degrees of freedom (df)	Sum of squares (SS)	Mean square (MS)	F
Gratitude tendency	2	0.19135802	0.09567901	0.20
Error	24	11.21604938	0.46733539	
All	26	11.40740741		

*p < .05, **p < .01, ***p < .001

3.1.2 The Effect of Writing a Journal of Good Deeds and Gratitude and Sharing the Thoughts on the Propensity

The results of the analysis of variance in [Table 12] show that the F value is 6.89 and the significant probability is 0.0043, with significant differences between groups at the significance level of 0.05. These findings support the <Research Theory 1-2>, which states, "Writing a good deed and gratitude diary and sharing your thoughts will increase your kindness."

[Table 11] Pre-post-difference Verification Average and Standard Deviation of Kindness Propensity

Dependent variable	Groups	Cases	Pre-Mean(SD)	Post-Mean(SD)	Difference Mean(SD)
	All	27	3.15(0.68)	3.56(0.65)	0.41(0.56)
Kindness propensity	Experiment	9	3.26(0.82)	4.09(0.57)	0.83(0.37)
	Comparison	9	3.07(0.50)	3.44(0.57)	0.37(0.37)
	Control	9	3.13(0.74)	3.15(0.43)	0.02(0.61)

[Table 12] Verification of Kindness Propensity Differences (ANOVA)

Dispersion source	Degrees of freedom (df)	Sum of squares (SS)	Mean square (MS)	F
A disposition for kindness	2	3.00617284	1.50308642	6.89***
Error	24	5.23456790	0.21810700	
All	26	8.24074074		

*p < .05, **p < .01, ***p < .001

3.1.3 Effects of Writing a Prior and Gratitude Diary and Sharing the Thoughts on Psychological Well-being

3.1.3.1 Statistical Analysis of Psychological Well-being

The following results reject the “Study hypothesis 2-1” that “the experimental group and the comparative group that conducted the pre-execution and gratitude diary will have a higher psychological well-being than the control group,” and support the “Study hypothesis 2-2” that “the experimental group that conducted the sharing will have a higher psychological well-being.”

[Table 13] Pre-post-difference Verification Average and Standard Deviation of Psychological Well-being

Dependent variable	Groups	Cases	Pre-Mean(SD)	Post-Mean(SD)	difference Mean(SD)
	All	27	2.99(0.42)	2.95(0.24)	-0.05(0.33)
Psychological well-being	Experiment	9	2.89(0.26)	2.99(0.21)	0.10(0.28)
	Comparison	9	3.02(0.57)	2.89(0.24)	-0.13(0.49)
	Control	9	3.07(0.39)	2.96(0.28)	-0.11(0.12)

*p < .05, **p < .01, ***p < .001

[Table 14] Verification of Differences in Psychological Well-being (ANOVA)

Dispersion source	Degrees of freedom (df)	Sum of squares (SS)	Mean square (MS)	F
Psychological well-being	2	0.28793096	0.14396548	1.28
Error	24	2.70684499	0.11278521	
All	26	2.99477595		

3.1.3.2 Analysis of Psychological Well-being Components

[Table 15] Average and Standard Deviation of Psychological Well-being Components in the Experimental Group

Dependent variable	Component	Cases	Pre-Mean(SD)	Post-Mean(SD)	Difference-Mean(SD)
Psychological well-being	Personal growth	9	3.26(0.75)	2.74(0.47)	-0.52(1.17)
	Self-acceptance		3.24(0.80)	3.78(0.58)	0.54(0.32)
	Positive interpersonal relationship		3.47(0.58)	2.27(0.70)	-1.20(1.13)
	Autonomy		2.83(0.62)	3.19(0.30)	0.35(0.59)
	Purpose of life		3.35(0.74)	2.56(0.41)	-0.80(1.00)
	Control over the environment		3.11(0.43)	3.40(0.5)	0.29(0.24)

[Table 16] Average and Standard Deviation of Psychological Well-being Components in Comparative Groups

Dependent variable	Component	Cases	Pre-Mean(SD)	Post-Mean(SD)	Difference-Mean(SD)
Psychological well-being	Personal growth	9	3.28(0.37)	2.72(0.54)	-0.56(0.78)
	Self-acceptance		2.83(0.67)	2.98(0.59)	0.15(0.44)
	Positive interpersonal relationship		3.22(0.71)	2.91(0.86)	-0.31(1.46)
	Autonomy		3.30(0.44)	3.04(0.27)	-0.26(0.53)
	Purpose of life		3.39(0.66)	2.59(0.23)	-0.86(0.76)
	Control over the environment		2.73(0.56)	3.11(0.59)	0.38(0.04)

[Table 17] Average and Standard Deviation of Psychological Well-being Components in Control Groups

Dependent variable	Component	Cases	Pre-Mean(SD)	Post-Mean(SD)	Difference-Mean(SD)
Psychological well-being	Personal growth	9	3.02(0.47)	2.94(0.55)	-0.07(0.98)
	Self-acceptance		3.26(0.74)	3.48(0.71)	0.22(0.30)
	Positive interpersonal relationship		3.80(0.53)	2.33(0.79)	-1.47(1.28)
	Autonomy		3.15(0.35)	3.04(0.30)	-0.11(0.52)
	Purpose of life		2.96(0.62)	2.63(0.57)	-0.33(1.14)
	Control over the environment		3.29(0.60)	3.33(0.66)	0.04(0.27)

Through technology statistics and distributed analysis, <Research hypothesis 2-1> "The experimental group and the comparative group that conducted gratitude diary writing will have a higher psychological sense of well-being than the control group." and <Research hypothesis 2-2> "The

experimental group that conducted the sharing of thoughts will have a higher psychological well-being than the comparative group that did not." "There is no significant difference in psychological well-being between groups that have conducted gratitude diaries, but the difference in variance between groups can be partially summarized in three components of psychological well-being: self-acceptance ($F=2.95$, significance level 0.0716), autonomy ($F=2.98$, significance level 0.0698).

3.2 Conclusions and Summary

The purpose of this study is to develop a specific program that can promote the psychological well-being of middle school students by studying 27 third-grade middle school girls in Daejeon in three groups according to their wishes. The conclusions of the study are as follows.

First of all, the gratitude-oriented pre-post-difference verification showed a negative average, which did not increase the gratitude tendency of each group, but it was confirmed that the experimental group had the highest gratitude tendency before or after the gratitude diary writing activities.

Second, writing a gratitude diary and sharing one's thoughts led to a very significant difference between groups in the tendency of the kindness of middle school students. What should be noted in this study is that the average of the differences in the pre-post-examination of the control group showed a positive response even though they did not write a gratitude diary. This can be interpreted as being influenced by kindness among members of the control group who are in a situation where many researchers experience large and small good deeds for four weeks as a learning community and help or receive them.

Third, it can be partially confirmed that writing a gratitude diary has a positive effect on enhancing the psychological well-being of middle school students in the case of experimental groups. Writing a gratitude diary is an opportunity to discover the importance and gratitude of the environment surrounding him/her and the meeting of human relationships by exploring opportunities to do small good deeds in daily life three times a week. This can be seen as an improvement in the psychological well-being of the meaning of life.

Fourth, the regular sharing of gratitude content and feelings was analyzed to be relatively meaningful in technical statistics in self-acceptance and autonomy of psychological well-being compared to comparison groups, showing a relatively meaningful difference in dominance and self-acceptance of the environment.

Since this study was conducted on middle school students, there is a limitation that the results can change when applied to general high school students or specialized high school students. Although this study has this limitation, it can be meaningful in examining how it has effects on learning through reflection journals as a future research.

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