The Effectiveness of the ‘One-Table One-Flower’ Program on Job Stress Management of Police Officials

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ABSTRACT

The purpose of this study was to determine the effects of flower decorations on job stress and stress coping style of police officers. Flower decorations were done in the form of “one-table one-flower”, in which flowers were placed on each desk in the office space. By analyzing color psychology, we first identified the symbolism of color, and selected the cut flowers in the same color. We selected six types of flowers in six colors: red, orange, yellow, green, blue and purple. Each Monday morning, the flower decorations were delivered to the police station. We selected 50 subjects who wanted to keep flowers on their desks every week as the experimental group and 44 subjects who only wanted to participate in the assessment as the control group. Before and after the program, we examined the mean difference between the control group and experimental group. After six sessions of the program, there was a significant difference in job stress ($p < .001$) and stress coping style ($p = .049$) of the experimental group compared to the control group. Therefore, this study proved that having flower decorations in an office space is effective for the psychological stability of police officers that are highly stressed, due to sensory stimulations from the colors and scents of flowers as well as mutual interaction as they take care of the flowers.

Keywords: color psychology, flower decoration, office space, psychological stability

Introduction

As the scope of duties for the police broadened along with the advancement of science and technology as well as the increasing diversity of the society, police officers are facing heavier workloads, such as the 112 notification system that requires the police to ‘arrive on site within 5 minutes’ anytime and anywhere, and the reduced deadline for handling charges and accusations. Job stress of police officers in crises or emergencies leads to decreased motivation to work, thereby causing a problem in the national public security service (Jeong and Yoon, 2014).

Police officers suffer more from stress than others, and the more they are stressed, the more they tended to show

deviant behaviors (Arter, 2007). This also hindered job satisfaction and organizational commitment, ultimately causing difficulty in effective handling of crimes and making police officers disregard or show hostility toward citizens they must protect (Moon, 2011). In particular, an analysis on the level of job stress and factors that cause such stress for police officers in Daegu proved that factors such as physical fatigue, psychological tension or anxiousness, and lack of concentration showed high levels in regard to stress. Moreover, physical and environmental factors such as personnel management, working overtime, obsolete devices, office design, lighting and noise appeared to cause stress (Kim et al., 2002).

Without proper management of job stress for police offi-

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cers, individuals, organizations and citizens will suffer damage as a negative result. Advanced countries are actively conducting research on stress of police officers due to the importance of their job stress, and are implementing and operating institutional systems to relieve their stress. Meanwhile, there are studies on job stress of police officers in Korea as well, but they lack diversity (Yoo, 2014). It is necessary to provide suitable contents for users using their biosignals and psychological information to increase the effect of stress relief (Kim and Kim, 2011).

It is important to stimulate humans to have a positive mindset that they can do something in life, and horticulture easily provides such environment (Kim, 2003), and the stable environment of nature has begun to be used therapeutically, anticipated to bring mental stability to those participating in horticultural activities (Simson and Straus, 1997). Stress is much less perceived when one is exposed to a natural environment with many nature-related elements than an urban environment (Ulrich, 1981), and therapy that stimulates the five senses with plants is effective for people with mental disabilities (Cho et al., 2003). Horticultural activities are different from other therapies in terms of their effect as they are carried out using many sensory organs by seeing with the eyes, smelling with the nose, touching with the hands, and thinking and moving (Son, 1997).

There is a research proving that floral design is effective in increasing stability and relieving stress of participants (Tak, 2006). Floral design not only provided emotional stability but also helped relieve stress with actions such as trimming, cutting, bending, arranging, knotting and twisting flowers (Jeong and Han, 2008). After making floral arrangement using flowers with various shapes, colors and scents, there were positive changes to emotional balance and decrease in depression of inpatient elderly (Yun et al., 2009). Moreover, as a result of giving stress to mice with electrostimulation as a passive effect of horticultural activities and measuring the cortisol level, which is a stress hormone, with the treatment of cut flowers and fragrance of essential oil, a significant effect was found in cut white trumpet lilies and rose essential oil (Kim et al., 2006). In addition, studies that determined the physiological and psychological effectiveness of roses proved that office workers showed a significant increase in parasympathetic activities

when they observed roses compared to the control group and also reported that they felt much more relaxed in subjective assessment (Ikei et al., 2014). Olfactory stimulation of fresh roses also increased parasympathetic activities as well as a relaxing, natural feeling (Igarashi et al., 2014).

According to the Yin-Yang and the Five Elements theory that is the basis of Eastern medicine, the energy ("qi") of the colors, scents and shapes of flowers is combined with the energy of humans to heal people, and plants have distinctive effects depending on their type (Katakiri, 1996). Colors of flowers also induce psychological change in humans, showing effects of color therapy. Color sensation obtained with panesthesia has a remarkable effect on determining or perceiving human behavior with consciously and unconsciously stored memory or experience (Kim, 2013).

Therefore, this study presented flowers decorated by color every Monday morning to police officers working at a police station, and had them work closely with the flowers on their desks, smell them, and experience the act of caring by watering them. In other words, we intended to examine the decrease in job stress and changes in the stress coping style through the experience of "one-table one-flower".

Research Methods

Subjects

This study is conducted on police officers working at D Police Station located in D Metropolitan City. We first extracted 100 subjects with random sampling, and then extracted 94 of them who expressed the will to participate in the study after explaining the purpose. We selected 50 subjects who wanted to keep flowers on their desks every week as the experimental group and 44 subjects who only wanted to participated in the assessment as the control group.

Tools

Program design

Flower decorations were done in the form of "one-table one-flower" in which the subjects placed flowers on each of their desks in the office space. First, we divided and

analyzed the symbolic meaning of colors applied to color psychology into general symbol and psychological symbol, and selected red, orange, yellow, green, blue and purple as colors related to positive emotional responses, especially stress (Kim, 2013). Next, to select the cut flowers in the same colors as the ones selected by symbolism, we used a portable color reading tool (Pantone Capsure X-rite Model RM 200, Pantone LLC, 2010) and identified the accurate colors of cut flowers distributed in the market with Pantone color libraries by applying it to the surface of petals. Table 1 shows the colors of cut flowers selected in each session and their symbolic meanings.

First, in Session 1, we selected red '*Dianthus caryophyllus*' that symbolizes life, passion, enterprising, energy, vigor and ambition for Parents' Day, and wrapped up the flowers and placed them on the desks. In Session 2, we selected orange '*Rosa hybrida*' that symbolizes festival, activity, fullness and curiosity. In Session 3, we selected yellow '*Helianthus annuus*' that symbolizes light, brightness, intelligence, positive and optimistic attitude. In Session 4, we provided a positive meaning by selecting green '*Eustoma grandiflorum*' that symbolizes nature, abundance, hope, peace and reconciliation. In Session 5, we selected blue '*Oxypetalum caeruleum*' that symbolizes water, heaven, healing, truth and eternity and has the psychological effects of relieving insomnia and increasing clarity and creativity. In Session 6, we selected purple

'*Limonium sinuatum*' that symbolizes strength, love, patience, humility and sublimation to feel the psychological effects of color that relieves anxiety and protects the mind.

Implementation

This study was conducted in total six sessions, one session a week, from May 6 to June 10, 2019. Every Monday morning, flowers decorated in each of the selected colors are delivered to the experimental group and placed on individual desks. Flowers were decorated by the researcher (State Registered Engineer Floral Design license holder) using the selected cut flowers, arranging them in four directions of the floral foam (10×10×10 cm). Then the floral foam was wrapped in wrapping paper that is in a color similar to that of the flower, and safely arranged so that the water does not leak on the office desk. The experimental group was to water the flowers every other day to experience "one table one flower". To reduce job stress and improve stress coping style of police officers, the flowers were delivered each session along with the symbolic meanings of colors and floral language of the flowers (Fig. 1).

Assessment tools

(1) Job stress

This study used the Police Stress Survey (PSS) developed by Spielberger et al. (1981), which was revised and modified by Kim (2014) to be more adequate for Korea,

Table 1. Colors and symbolic meanings of cut flowers used in 'one-table one-flower' program

Session	Date	Color	Symbol	Symbolic meaning of color	Cut flower	Pantone color
1	May 7	Red	General	Life, passion, enterprising, energy	<i>Dianthus caryophyllus</i>	Pantone 19-1758
			Psychological	Overcoming negative thinking, bringing vigor and ambition		
2	May 13	Orange	General	Festival, activity, fullness, curiosity	<i>Rosa hybrida</i>	Pantone 17-1360
			Psychological	Prevents malfunction and frees up emotions		
3	May 20	Yellow	General	Light, bright, intelligence, positive	<i>Helianthus annuus</i>	Pantone 1215U
			Psychological	Confidence, optimism, new ideas		
4	May 27	Green	General	Nature, abundance, hope, peace, reconciliation	<i>Eustoma grandiflorum</i>	Pantone P163-15U
			Psychological	Calm and balanced roles of stress and intense emotions		
5	June 3	Blue	General	Water, heaven, healing, truth, eternity	<i>Oxypetalum caeruleum</i>	Pantone 82-3-5C
			Psychological	Insomnia relief, increased clarity, creativity		
6	June 10	Purple	General	Strength, love, patience, humility, sublimation	<i>Limonium sinuatum</i>	Pantone P96-16C
			Psychological	Relieves shock or fear, purifies anxiety, protects		

Fig. 1. Color scheme of each session of 'one-table one-flower' program and activity images.

and measured job stress of police officers with the ultimately selected 27 items with self-measurement before and after the program. The items were rated on a 5-point scale of 'Don't feel at all (1 point), Don't feel much (2 points), Neutral (3 points), Feel much in general (4 points), and Feel very much (5 points)', and job stress was measured by adding up the scores of the responses for subitems. Job stress is distributed throughout the range of 27 points minimum to 135 points maximum. The reliability was Cronbach's $\alpha = .917$ in the previous study by Kim (2014) that used the same items, and in this study it was Cronbach's $\alpha = .943$.

(2) Stress coping style

This study used the scale developed by Folkman & Lazarus (1985), on which Gong and Lee (2006) conducted a confirmatory factor analysis and ultimately selected 16 items, and had the subjects self-measure their stress coping style before and after the experiment. There were nine items for problem-focused coping and seven items for emotion-focused coping, and the subjects were to rate the extent

in which they use the stress coping style as "Not at all 1, Not really 2, Somewhat 3, In general 4, and Always 5". The scores of the subitems are added, and higher scores indicate that the relevant coping style is frequently used. The reliability in this study was Cronbach's $\alpha = .765$.

Data analysis

The collected data was analyzed using the SPSS (version 19.0, IBM, USA, 2012) program. Reliability analysis was first conducted to examine the internal consistency of the self-report questionnaire, and the normality of the collected data was tested using the one-sample Kolmogorov-Smirnov test. The collected data of job stress was $p = .585$ and that of stress coping style was $p = .490$, both following normal distribution, and thus the preliminary test of homogeneity of the control group and experimental group as well as the comparison of the two groups after the experiment was analyzed using an independent samples t-test. The subjects were classified by gender, age and rank, using a paired sample t-test to compare the means before and after the experiment. The significance level was set at $p < .05$.

Results and Discussion

General characteristics

Total 94 subjects (44 in the control group and 50 in the experimental group) participated in this study to examine the decrease in job stress and change in stress coping style of police officers through the experience of “one-table one-flower”. General characteristics of the subjects are as follows; 73.4% were male and 26.6% were female, 6.4% were in their 20s, 27.6% in their 30s, 36.2% in their 40s, and 29.8% in their 50s, 84.0% were married and 16.0% were unmarried, 16.0% had work experience of 5 years or less, 11.7% had 5-10 years of experience, 22.3% had 10-15 years, 16.0% had 15-20 years, and 34.0% had more than 20 years of experience. By police rank, 9.6% were constables, 14.9% were corporals, 20.2% were sergeants, 41.5% were lieutenants, 12.7% were inspectors, and 1.1% were superintendents (Table 2).

Preliminary test of homogeneity

We analyzed the measures of job stress and coping style with an independent t-test to determine the homogeneity of the two groups. The mean of job stress was 86.9 points (SD = 12.8) for the control group and 81.2 (SD = 17.7) for the experimental group, showing no statistically significant difference ($p = .081$). The mean of coping style was 51.0 (SD = 6.1) for the control group and 51.2 (SD = 5.8) for the experimental group, showing no statistically significant difference ($p = .841$; Table 3). Therefore, the two groups were regarded as homogeneous groups, and thus the comparative experiment could be conducted.

Effects of the “one-table one-flower” program

The experimental group was to participate in the “one-table one-flower” program for 6 weeks. After the program, job stress was 92.1 points (SD = 12.8) for the control group but 75.3 (SD = 15.1) for the experimental group, showing a highly significant difference ($p < .001$), and coping

Table 2. General characteristics of study subjects

Characteristics	Sort	Frequency (%)		
		Total	Control (n=44)	Experimental (n=50)
Gender	Male	69 (73.4)	38 (40.4)	31 (33.0)
	Female	25 (26.6)	6 (6.4)	19 (20.2)
Age	20s	6 (6.4)	3 (3.2)	3 (3.2)
	30s	26 (27.6)	13 (13.8)	13 (13.8)
	40s	34 (36.2)	15 (16.0)	19 (20.2)
	50s	28 (29.8)	13 (13.8)	15 (16.0)
Marital status	Married	79 (84.0)	38 (40.4)	41 (43.6)
	Unmarried	15 (16.0)	6 (6.4)	9 (9.6)
Years of work experience	5 years or less	15 (16.0)	6 (6.4)	9 (9.6)
	5-10 years	11 (11.7)	7 (7.4)	4 (4.3)
	10-15 years	21 (22.3)	8 (8.5)	13 (13.8)
	15-20 years	15 (16.0)	8 (8.5)	7 (7.4)
	More than 20 years	32 (34.0)	15 (16.0)	17 (18.1)
Police rank	Constable	9 (9.6)	4 (4.3)	5 (5.3)
	Corporal	14 (14.9)	4 (4.3)	10 (10.6)
	Sergeant	19 (20.2)	11 (11.7)	8 (8.5)
	Lieutenant	39 (41.5)	20 (21.3)	19 (20.2)
	Inspector	12 (12.7)	5 (5.3)	7 (7.4)
	Superintendent	1 (1.1)	0 (0)	1 (1.1)

Table 3. Mean difference verification between control and experimental group before conducting the program

Item	Control		Experimental		<i>p</i>
	M	SD	M	SD	
Job stress (score)	86.9	12.8	81.2	17.7	.081 ^{NS}
Coping style (score)	51.0	6.1	51.2	5.8	.841 ^{NS}

^{NS}Non-significant by independent t-test.**Table 4.** Mean difference verification between the control and experimental group after conducting the program

Item	Control		Experimental		<i>p</i>
	M	SD	M	SD	
Job stress (score)	92.1	12.8	75.3	15.1	< .001 ^{***}
Coping style (score)	51.0	5.1	52.4	6.0	.049 [*]

^{*}*p* < .05, ^{***}*p* < .001 by independent t-test.**Table 5.** Changes in the level of job stress and coping style before and after program by gender

Item	Group	Gender	Before		After		<i>p</i>
			M	SD	M	SD	
Job stress (score)	Control	Male	88.1	12.9	93.4	12.7	.010 [*]
		Female	79.3	9.5	83.3	10.6	.210
	Experimental	Male	81.6	16.5	76.9	14.0	.003 ^{**}
		Female	72.6	16.8	72.6	16.8	.065
Coping style (score)	Control	Male	51.5	6.3	50.1	5.4	.018 [*]
		Female	48.5	3.4	49.5	3.2	.562
	Experimental	Male	50.9	6.3	51.3	5.9	.533
		Female	51.7	4.9	54.1	5.8	.072

^{*}*p* < .05, ^{**}*p* < .01 by paired t-test.

style was 51.0 (SD = 5.1) for the control group but 52.4 (SD = 6.0) for the experimental group, showing a significant difference (*p* = .049; Table 4).

Comparison by characteristics of subjects

Changes by gender

We classified the means before Session 1 and after Session 6 into male and female. As for job stress in the control group, men showed a significant increase from 88.1 (SD = 12.9) to 93.4 (SD = 12.7; *p* = .010), whereas women did not show a significant difference from 79.3 (SD = 9.5) to 83.3 (SD = 10.6; *p* = .210). On the other hand, in the experimental group, men showed a significant decrease from 81.6 (SD = 16.5) to 76.9 (SD = 14.0; *p* = .003), whereas women did not show a significant change from

72.6 (SD = 16.8) to 72.6 (SD = 16.8; *p* = .065). For stress coping style in the control group, men did not show a significant change from 51.5 (SD = 6.3) to 50.1 (SD = 5.4; *p* = .018), and neither did women from 48.5±3.4 to 49.5 (SD = 3.2; *p* = .562). In the experimental group, men showed a slight increase from 50.9 (SD = 6.3) to 51.3 (SD = 5.9; *p* = .533), and women from 51.7 (SD = 4.9) to 54.1 (SD = 5.8; *p* = .072), but both genders did not show significance. In other words, only men in the experimental group showed a significant effect in job stress, while there was not much difference in other cases depending on gender (Table 5).

Changes by age

We classified the means before Session 1 and after Session 6 by age. As for job stress in the control group, 20s showed

Table 6. Changes in the level of job stress and coping style before and after program by age

Item	Group	Age	Before		After		<i>p</i>
			M	SD	M	SD	
Job stress (score)	Control	20s	80.0	14.7	80.7	14.3	.184
		30s	82.6	12.1	90.5	7.5	.016*
		40s	90.9	10.2	97.8	12.3	.022*
		50s	88.1	15.1	89.7	15.4	.703
	Experimental	20s	75.0	2.6	62.7	6.7	.129
		30s	87.2	15.1	80.0	13.1	.135
		40s	79.7	23.2	73.6	18.8	.065
		50s	79.1	12.8	75.8	11.4	.112
Coping style (score)	Control	20s	49.7	3.1	46.3	2.9	.267
		30s	49.5	4.8	48.6	3.01	.353
		40s	51.2	5.6	49.8	5.3	.215
		50s	53.0	8.0	52.6	6.2	.693
	Experimental	20s	49.7	1.2	49.3	7.23	.939
		30s	52.0	5.0	53.2	5.4	.410
		40s	50.3	4.1	52.9	4.6	.009*
		50s	52.0	8.3	51.5	7.9	.668

* $p < .05$ by paired t-test.

a change from 80.0 (SD = 14.7) to 80.7 (SD = 14.3; $p = .184$), 30s from 82.6 (SD = 12.1) to 90.5 (SD = 7.5; $p = .016$), 40s from 90.9 (SD = 10.2) to 97.8 (SD = 12.3; $p = .022$), and 50s from 88.1 (SD = 15.1) to 89.7 (SD = 15.4; $p = .703$), all showing higher scores after the program. On the other hand, in the experimental group, 20s showed a change from 75.0 (SD = 2.6) to 62.7 (SD = 6.7; $p = .129$), 30s from 87.2 (SD = 15.1) to 80.0 (SD = 13.1; $p = .135$), 40s from 79.7 (SD = 23.2) to 73.6 (SD = 18.8; $p = .065$), and 50s from 79.1 (SD = 12.8) to 75.8 (SD = 11.4; $p = .112$), all showing lower scores after the program, but without significance.

For stress coping style in the control group, the score of 20s was from 49.7 (SD = 3.1) to 46.3 (SD = 2.9; $p = .267$), 30s from 49.5 (SD = 4.8) to 48.6 (SD = 3.0; $p = .353$), 40s from 51.2 (SD = 5.6) to 49.8 (SD = 5.3; $p = .215$), and 50s from 53.0 (SD = 8.0) to 52.6 (SD = 6.2; $p = .693$), showing no significant change. On the other hand, in the experimental group, there was no significant change in 20s from 49.7 (SD = 1.2) to 49.3 (SD = 7.2; $p = .939$), 30s from 52.0 (SD = 5.0) to 53.2 (SD = 5.4; $p = .410$), and 50s from 52.0 (SD = 8.3) to 51.5 (SD = 7.9; $p = .668$), but there

was a significant increase in 40s from 50.3 (SD = 4.1) to 52.9 (SD = 4.6; $p = .009$; Table 6).

Changes by police rank

We classified the means before Session 1 and after Session 6 by police rank. The ranks of police officers who participated in this study were categorized into constable, corporal, sergeant, lieutenant, inspector, and superintendent. There were no superintendents in the control group, but only one in the experimental group that participated in the program, and thus excluded from the changes by rank. Accordingly, changes in the means were analyzed using five ranks. As for job stress in the control group, constables showed an increase from 77.0 (SD = 13.4) to 83.3 (SD = 12.8; $p = .345$), corporals from 72.5 (SD = 6.6) to 86.3 (SD = 9.2; $p = .108$), sergeants from 92.9 (SD = 10.0) to 98.9 (SD = 11.5; $p = .040$), lieutenants from 88.0 (SD = 13.4) to 92.2 (SD = 12.8; $p = .115$), and inspectors from 88.6 (SD = 8.3) to 88.4 (SD = 14.3; $p = .982$), all showing higher scores after the program. On the other hand, as for job stress in the experimental group, constables showed a decrease from 77.2 (SD = 5.3) to 72.6 (SD = 15.6; $p = .548$), corporals from

89.4 (SD = 16.4) to 79.4 (SD = 13.8; $p = .080$), sergeants from 89.6 (SD = 14.9) to 78.9 (SD = 18.1; $p = .059$), lieutenants from 76.2 (SD = 20.2) to 73.4 (SD = 16.0; $p = .293$), and inspectors from 76.1 (SD = 18.2) to 71.1 (SD = 13.3; $p = .101$), all showing lower scores after the program, but without significance.

For stress coping style in the control group, constables showed a decrease from 48.0 (SD = 4.2) to 46.8 (SD = 2.5; $p = .663$), corporals from 50.3 (SD = 7.0) to 47.8 (SD = 4.6; $p = .155$), sergeants from 51.8 (SD = 5.2) to 50.7 (SD = 4.5; $p = .232$), lieutenants from 50.8 (SD = 6.7) to 49.9 (SD = 5.4; $p = .360$), and inspectors from 54.0 (SD = 6.7) to 53.6 (SD = 6.4; $p = .648$), all showing lower scores after the program. On the other hand, as for stress coping style of the experimental group, there was no significant change in constables from 50.0 (SD = 4.0) to 52.6 (SD = 8.2; $p = .403$), corporals from 53.4 (SD = 3.9) to 54.1 (SD = 5.1; $p = .727$), lieutenants from 51.2 (SD = 4.0) to 51.8 (SD = 4.4;

$p = .396$), and inspectors from 50.9 (SD = 12.4) to 50.4 (SD = 11.0; $p = .833$), but there was a significant increase in sergeants from 49.0 (SD = 3.7) to 52.5 (SD = 3.6; $p = .017$; Table 7).

In this study, 50 flowers in each of red, orange, yellow, green, blue and purple were decorated every week and delivered to the police station on Monday morning. We explained the symbolic meanings of the names and colors of the flowers when delivering them, and had short conversations to receive feedback on the shapes and scents of flowers. Most police officers were exhausted after the week-end, but they greeted us with bright smiles when we entered the office in the morning with flowers. They also shared certain incidents or stories related to spending the week with the flowers. According to the statistical report of the Korea Employment Information Service (www.keis.or.kr) in 2013, police officers are the most stressed occupation in Korea. This research was conducted during the time when the sub-

Table 7. Changes in the level of job stress and coping style before and after program by police rank

Item	Group	Police rank	Before		After		<i>p</i>
			M	SD	M	SD	
Job stress (score)	Control	Constable	77.0	13.4	83.3	13.8	.345
		Corporal	72.5	6.6	86.3	9.2	.108
		Sergeant	92.9	10.0	98.9	11.5	.040*
		Lieutenant	88.0	13.4	92.2	12.8	.115
		Inspector	88.6	8.3	88.4	14.3	.982
	Experimental	Constable	77.2	5.3	72.6	15.6	.548
		Corporal	89.4	16.4	79.4	13.8	.080
		Sergeant	89.6	14.9	78.9	18.1	.059
		Lieutenant	76.2	20.2	73.4	16.0	.293
		Inspector	76.1	18.2	71.1	13.3	.101
Coping style (score)	Control	Constable	48.0	4.2	46.8	2.5	.663
		Corporal	50.3	7.0	47.8	4.6	.155
		Sergeant	51.8	5.2	50.7	4.5	.232
		Lieutenant	50.8	6.7	49.9	5.4	.360
		Inspector	54.0	6.7	53.6	6.4	.648
	Experimental	Constable	50.0	4.0	52.6	8.2	.403
		Corporal	53.4	3.9	54.1	5.1	.727
		Sergeant	49.0	3.7	52.5	3.6	.017*
		Lieutenant	51.2	4.0	51.8	4.0	.396
		Inspector	50.9	12.4	50.4	11.0	.833

* $p < .05$ by paired t-test.

jects had heavy workload due to the first-half year business report, along with the burden of Ulchi training, but job stress of the experimental group decreased remarkably. There was a study in Japan that had male office workers look at their favorite rose, and even this small stimulation reinforced the parasympathetic nervous system and significantly reduced stress (Ikei et al., 2014). Thus result is in line with the research that conducted eight sessions of horticultural activities on elementary school teachers and discovered that job stress decreased significantly. As a result of having the teachers continuously manage the outputs they worked on in Session 8 without new horticultural activities 4 weeks after the program, job stress also significantly decreased (Choi et al., 2015). Moreover, flower decorations are known to improve emotion regulation ability and reduce depression (Yun et al., 2002), and horticultural activities help psychological welfare of the elderly in institutions (Barnicle and Midden, 2003). Humans can relieve their stress by encountering plants and obtain positive results in terms of mental physiology (Nakamura and Fujii, 1992).

Conclusion

This study was conducted to determine the effects of the “one-table one-flower” program in an office space on job stress and stress coping style of police officers. We first determined the psychological symbols of colors and selected and decorated flowers in colors that can relieve stress. Then we delivered them to the police station every Monday morning and had the subjects in the experimental group place the flowers on their office desks and look after them. After six sessions of the program, there was a significant difference in job stress ($p < .001$) and stress coping style ($p = .049$) of the experimental group compared to the control group. In particular, male subjects showed a significant decrease in job stress, and subjects in their 40s showed a significant increase in stress coping style. By rank, sergeants showed a significant increase in stress coping style. The group showing more active response tended to be more effective. Adopting natural elements in an office environment brings energy into the desolate of-

fice, creates a healthy and pleasant environment, and increases work efficiency (Kim, 2001). This study proved that having flower decorations in an office space is effective for psychological stability of police officers that are highly stressed, due to sensory stimulations from the colors and scents of flowers as well as mutual interaction as they take care of the flowers. In particular, looking at and keeping flower decorations nearby is effective in relieving and managing job stress.

The results of this study are limited to only one police station in Daegu, and thus the level of job stress may be different from a police station in the big and crowded city of Seoul or in a quiet, secluded region. Therefore, it would be meaningful to expand the scope of research to police stations nationwide based on the model of organizational health that job stress of police workers must be managed at an organizational level (Yoo, 2014). Furthermore, various effects of flowers can also be determined by the “one-table one-flower” program in other office areas where stress levels are high.

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