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Processes that Enable Public Health Professionals to Organize Preventive Care Support Groups

Abstract

***Objectives*:** This study examines the structure of the process that public health professionals (PHPs) use to organize preventive care groups for older adults and the elements that strengthen this process. ***Design and Sample*:** The study was conducted using a quantitative descriptive design. Anonymous self-administered questionnaires were distributed by mail to 919 PHPs, including nurses and social workers employed by local governments in a Japanese prefecture, who facilitated recreational groups for older adults for the purposes of preventive care. ***Measures*:** Items related to the process and the awareness of support were based on previous research. The process structure was examined using exploratory factor analysis, while multiple logistic regression analysis was used to study strengthening elements. ***Results*:** The process yielded six factors (encouraging clarity with respect to the group's activity policy; creating connections with other resources; fostering independence; encouraging activity-evaluation; creating relationships with group members; understanding the strengths and weaknesses of communities and individuals) with a total of 23 items. Two out of three indicators of awareness of support were significantly related to the process. ***Conclusions*:** Understanding the importance of strengthening elements might improve support groups for older adults.

Keywords: Community, Group, Older, Organizations, Process, Public Health Nurse

Processes that Enable PHPs to Organize Preventive Care Support Groups

The proportion of older adults in populations around the world is increasing dramatically (WHO, 2015). Preventive care is necessary for healthy and independent living; engaging in physical activities is related to preventive care and is an effective means of improving activities of daily living (Tak, Kuiper, Chorus, & Hopman-Rock, 2013); increasing muscle strength (Paterson & Warburton, 2010); and preventing cognitive decline (Blondell, Hammersley-Mather, & Veerman, 2014).

While some community-dwelling older adults seek out physical activities that they can pursue alone, others look for those that are group-based. Physical activity in a group setting is a form of social participation, as it impacts individuals' social networks and support systems (Kanamori, Takamiya, & Inoue, 2015). Social participation helps maintain mental health (Takagi, Kondo, & Kawachi, 2013), thus increasing the effectiveness of preventive care. Participating in group activities can help older adults live long, healthy, and independent lives.

Older adults' participation in civil society has mental health benefits (Tomioka, Kurumatani, & Hosoi, 2017). Community-based organizations (CBOs), a form of group, require members to communicate and interact with each other to achieve a common purpose (Barnard, 1938, 1956). CBOs can also have an indirect impact on residents who are not members—for example, they can help resolve community health issues

Public health nursing is defined as a practice that protects and promotes people's health, using knowledge gained from nursing, society, and public health science. Public health nurses (PHNs) focus on people from a public health nursing perspective (Swider, Krothe, Reyes, & Cravetz, 2013). Public health professionals, PHNs among them, are responsible for maintaining the health of residents. They work from the viewpoint of prevention, so that the people they

serve can continue to lead healthy lives. PHNs also assess individual and group issues and consider them at the systemic level in the interests of the public (American Public Health Association [APHA], 2013). PHNs work to create community organizations that offer preventive care and promote the health of older adults.

Although there are multiple studies on how to promote physical activity among the older adults, there is no research clarifying whether group-based preventive care also qualifies as social interaction. In Japan, older individuals are making a collective effort to promote preventive care (Nakayama, 2007, 2009; Taguchi & Okamoto, 2004; Yamada, Morita, & Ito, 2010). As populations around the world age, they must be encouraged to invest in preventive care activities. However, to date, there is no published research demonstrating how to systematically support such efforts.

Purpose of the research

This study examines the structure and strengthening elements of the process that public health professionals (PHPs) use to organize preventive care groups for older adults. The research questions are as follows. (1) What is the structure of the process of organizing groups used by PHPs? (2) What are the strengthening elements of the process of organizing groups?

Methods

Design

This study was conducted utilizing a quantitative descriptive study design.

Sample

From March to April 2019, anonymous self-administered questionnaires were distributed by mail to 919 PHPs—including nurses and social workers employed by local prefectural

authorities—who facilitated preventive care groups for older adults. To improve the response rate, we sent postcards and followed them up with phone calls in late March 2019.

Term definition

In this study, the organizing group is defined as "a group that has a collaborative system within the group and can work independently with community stakeholders to solve community health problems."

Measures

The measures consisted of basic characteristics of the study participants, characteristics of the support group, process of organizing groups, and awareness of support.

Basic characteristics of the study participants. The basic characteristics were age, gender, occupation, academic background, years of work experience, workplace, size of the municipality where the workplace was established, and years of support for groups working in the field of preventive care.

Characteristics of the support group. Characteristics of the support group included activity frequency; number of years of activity; number of registered members; change in the number of registered members in the course of one year; degree of organizational development; frequency of individual participation in the group (hereinafter referred to as frequency of involvement); and knowledge of how to interact with group participants (hereinafter referred to as ‘type of involvement’).

Process of organizing groups. Community-based participatory research (CBPR) is an initiative aimed at improving community health and well-being, one that treats local residents like partners (Galea, Ettman, & Vlahov, 2019; Israel, Schulz, Parker, Becker, & Community-Campus Partnerships for Health, 2001). The principle of CBPR is to build strengths and

resources with the community as one unit, and it is a long-term commitment by all partners. CBPR also emphasizes that researchers and community partners build and work in collaborative partnerships (Wallerstein, Yen, & Syme, 2011). The organization in this research is similar to CBPR processes in that professionals and residents work together to solve community health issues in community activities. The process of organizing group was based on the concept of CBPR.

The process of organizing group also refers to qualitative research on PHPs in support of groups and community organizations and was disaggregated into 28 distinct items (Nakayama, 2007, 2009; Noda & Chida, 2017; Taguchi & Okamoto, 2004; Yamada et al., 2010). Responses used on a five-step Likert scale, from "1 (not at all)" to "5 (always)". Three PHNs with 14 to 29 years of practical experience confirmed the validity of the questionnaire items. A preliminary survey was conducted with two social workers and eight PHNs to ensure surface relevance.

Awareness of support. “Awareness of support” had three items: awareness of promoting the organization, awareness of reflecting the results of the district diagnosis, and awareness of connecting with community resources. For PHPs to organize preventive care groups, they must be familiar with the dynamics of organizing them. Since community diagnoses are a core competence of public health nursing (Quad Council Coalition, 2018), these professionals are experienced at providing group support as well as incorporating diagnosis results into their work with communities.

An organization is a collaborative system driven by a common purpose (Barnard, 1938, 1956). Since CBOs and their members are presumed to have a shared goal—that of securing preventive care—their cooperation is of critical importance to function successfully. The assumption is that PHPs are aware of the need to link CBOs to each other and to community-

based institutions, particularly when organizing a preventive care group. Each question regarding this process used a five-step Likert scale, ranging from "1–not at all" to "5–always."

Analytic Strategy

To clarify the structure of the process of organizing group, we conducted exploratory factor analysis using 28 items of the process of organizing group. The response range of the process of organizing groups was 1 to 5. A ceiling and a floor effect were examined as an item analysis of 28 items. Mean ± standard deviation of responses of less than 1 resulted in a floor effect; if larger than 5, a ceiling effect was obtained. Correlation analysis was performed between items, and a correlation coefficient of 0.8 or more was considered a strong correlation. After confirming the sample validity through the Kaiser-Meyer-Olkin test, exploratory factor analysis by maximum likelihood Promax rotation was performed. The lower limit of the eigenvalue was set to 1, and the selection of items was based on the condition that the factor load was 0.4 or more.

To clarify strengthening elements of the process of organizing groups, multiple logistic regression analysis was performed using the forced input method with the factors of the process of organizing groups as dependent variables, which in turn, were divided into high- and low-ranking groups based on the mean and median. Independent variables were three groups of “1,2 (not at all)”, “3”, and “4,5 (always)” as awareness of support. Since there are various forms of groups supported by PHPs, the characteristics of the support group were used as adjustment variables. In the Kruskal-Wallis test, basic characteristics associated with factors were also input as adjustment variables.

A statistical analysis, with a significance level of less than 5%, was performed using IBM SPSS Statistics 22.

Ethical considerations

This study was conducted after obtaining approval from the ethics committee of the university that the researchers were affiliated.

Results

A total of 183 completed questionnaires were received, with 171 valid responses (valid response rate: 18.6%). Thirteen people who did not answer questions concerning the degree of organizational development and the process of organizing groups were rejected.

Basic characteristics of the study participants

The average age of the study participants—6 men (26.9%) and 125 women (73.1%)—was 43.5 ± 8.7 years. There were 77 PHNs (45.3%), with an average of 13.6 ± 9.2 years' job experience (Table 1).

Characteristics of the support group

There were 74 groups (43.3%) that were active more than once a week; on average, these groups had been active for 5.7 ± 5.8 years. Eighty-six participants (50.3%) had reached the maintenance stage of degree of organizational development (Table 2).

Awareness of support

Ninety-eight people (57.6%) were aware of promoting the organization, 82 people (48.0%) were aware of reflecting the results of the district diagnosis, and 106 people (62.0%) were aware of connecting with community resources (Figure 1).

Factor structure of the process of organizing groups

An item analysis revealed a ceiling effect across five separate items. None of the items showed a strong correlation with a correlation coefficient of 0.8 or more. The question-wise

distribution of answers was also checked, and two items with a ceiling effect of 5.1 or more were excluded from the analysis.

The sample validity of the KMO for 26 items selected by item analysis was 0.853, and the sample size was reasonable. An exploratory factor analysis was conducted using 26 items, resulting in six factors that yielded a total of 23 items (Table 3). The title of the first-order factor (F1), with 5 items, was “Encouraging clarity with respect to a group’s activity policy”; the second-order factor (F2), with 4 items, was “Creating connections with other resources”; the third-order factor (F3), with 4 items, was “Fostering independence”; the fourth-order factor (F4), with 3 items, was “Encouraging activity-evaluation”; the fifth-order factor (F5), with 3 items, was “Creating relationships with group members”; and the sixth-order factor (F6), with 4 items, was “Understanding the strengths and weaknesses of communities and individuals.”

Cronbach's α coefficient was 0.908 for all items; it was 0.864 for F1, 0.825 for F2, 0.842 for F3, 0.821 for F4, 0.833 for F5, and 0.741 for F6. Questions were checked with PHPs at the item-creation stage; and factor validity was examined using exploratory factor analysis. At this point, the validity of the construct was assumed. The process of organizing groups had a framework consisting of six factors and 23 items.

Strengthening elements related to the process of organizing groups

A multiple logistic regression analysis was conducted to examine strengthening elements of the process of organizing groups (Table 4). Regarding items of awareness of support, awareness of reflecting the results of the district diagnosis "4,5 (doing)" with F2 (OR = 5.736, p = 0.009); awareness of promoting the organization "3" (OR = 6.027, p = 0.011); “4,5” (OR = 12.317, p = 0.001) with F3; and awareness of reflecting the results of the district diagnosis "4,5 – doing" with F6 (OR = 3.975, p = 0.038) were significantly related to “1,2 (not done)”. After

adjusting the characteristics of the support group, awareness of support significantly related to the process of organizing groups.

Discussion

Process of organizing preventive care groups for older adults

The purpose of this study was to clarify the structure and strengthening elements involved in the process of organizing preventive care groups for older adults, that has so far not been elucidated. The following discussion is based on the practical skills of PHNs.

F1 was the process of helping members to increase their attachment to an activity, the aim being to continue the activity. Sharing goals encouraged residents to continue participating in health promotion activities (Takahashi, Suenaga, Kurimoto, & Ueno, 2010). Higher attachment to an activity by health promotion volunteers who worked to promote community health in Japan has been associated with more support from colleagues (Murayama, Taguchi, & Murashima, 2010). This support process reinforced members' commitment to the group.

F2 was the process of building a collaborative system between community members inside and outside the group, in an effort to expand the group's base of activities across the region. For neighborhood networks to grow, health promotion volunteers must be actively involved in community outreach (Murayama, Taguchi, & Murashima, 2011). Creating links between groups and community resources constitutes a gesture of support that enables members to introduce their activities to the wider community.

F3 entailed providing support by assigning specific roles to members, reminding them to work autonomously, thereby fostering a sense of independence. Encouraging members to plan group activities leads to the creation of group member roles. At the same time, encouraging members to take the initiative in their professional lives leads to a sense of accomplishment that

enables them to fulfill their responsibilities as group members, which in turn fosters independence.

F4 involved extending support by encouraging members to review and evaluate their activities, while empowering them to design activities. Involving community members in activity-evaluation leads to the empowerment of group members (Zimmerman, 1995). Encouraging them to analyze their own activities is an important part of the process of providing support to their members to improve their activities in the future.

F5 involved demonstrating support by building relationships between members and PHPs, in the interests of group empowerment. When professionals work to empower community members, it means treating them as coequal partners (Zimmerman, 1995).

F6 comprised efforts to understand members' personalities and interests, and to help them better understand community health issues. Hands-on knowledge of a community is a core competence of PHPs (Witt & de Almeida, 2008), as it allows them to discern the nature of the relationship between an individual's health and the overall health of their community (Takao, 2013). Therefore, it is inferred that the PHPs expected the members to take the initiative in solving both the individual and community health issues.

Strengthening elements to successfully organize preventive care groups for older adults

Awareness of support is necessary to promote group organization. Positioning the group as a resource can help solve community health issues. Members must be encouraged to make a conscious effort to engage with community health issues, through group activities that are designed on the basis of district diagnoses. To work as an organization, members must contribute and collaborate to achieve their goals (Barnard, 1938, 1956).

PHNs assess potential as well as actual assets, needs, opportunities, and inequities—both at the level of individuals and groups, but also from a systemic perspective, in the interests of the public good (APHA, 2013). PHNs investigate the availability and interconnectedness of community resources by conducting a district diagnosis. They are able to discern the needs of CBOs because of their grasp of community health issues (Taguchi & Okamoto, 2004).

Awareness of connecting with community resources was not a relevant factor to the process of organizing groups. PHNs are trying to network and utilize both community organizations and various resources (Yamada et al., 2010). Voluntary organizations that have been active for less than four years are significantly less independent (Kawano & Yoshida, 2007). This explains why PHPs believe that it is difficult to reach a stage where CBOs, which tend to have been active for a relatively short period of time, can engage in preventive care and function as a community resource.

Encouraging clarity with respect to a group's activity policy and creating relationships with group members were not related to awareness of support. Setting goals when initiating a physical activity program is important for effective behavioral modification of the population (Artinian et al., 2010). When members realize the value of activities, it leads not only to the continuation of the group itself but also to the continued participation of each member. This is a practice when PHPs provide individual support.

A model to encourage activity-evaluation has not been established, as age has a negative effect on self-efficacy among older adults (Conn, 1998). Since the group consisted of older adults, the PHPs assumed that group members were in a position manage their own groups, and that encouraging members to evaluate their activities was not a high priority.

Clinical application

In this study, we analyzed the support process used by PHPs to organize preventive care groups for older adults. It is important for PHPs to establish a collaborative structure with the members and to consider the group's health issues and community health issues in a linked manner. PHPs can also support community empowerment initiatives by building a network of preventive care CBOs.

To support efforts to build CBOs, drawing on the results of community diagnosis is and allows groups to be positioned as community resources. PHPs need a comprehensive understanding of the community as well as the group. Therefore, it is important to make a local diagnosis and view the community at a system level. We recommend that newly appointed PHPs be required to conduct such assessments to better understand and utilize the community resource networks and systems.

Limitations

This study investigated all municipalities in a Japanese prefecture. The proportion of completed questionnaires was as low as 19.9%. We were also unable to identify all the professions that were involved in the group. Nevertheless, we had a large number of samples because we approached professionals from varied fields at the community general support center, and asked them to participate in the survey.

Drawing on previous studies, we selected 28 items related to the process of organizing groups and three items for awareness of support. Content validity and surface validity were ensured, but criterion validity could not be established owing to a dearth of external criteria that would have allowed us to measure the process of organizing groups. It was not possible to verify the validity and reliability of their awareness of support. Further verification is needed in the

future. It was difficult to assess the degree of organizational development attained by the groups because there were no objective means of assessment through scales or indicators.

This study was able to clarify the structure of the process of organizing groups by performing multiple logistic regression analysis but could not predict the whole process of organizing groups. Further research is needed to clarify the entire process. Because the educational background of respondents varies by occupation, future work is needed to clarify potential difference in the process of organizing groups by occupation. Finally, in this study, 70% of the participants were women. The difficulty of implementing the process of organizing groups may vary depending on the gender. Further verification is needed.

Conclusion

PHPs' support for CBOs working on preventive care consists of six factors: encouraging clarity with respect to a group's activity policy; creating connections with other resources; fostering independence; encouraging activity-evaluation; creating relationships with group members; and understanding the strengths and weaknesses of communities and individuals. Positioning CBOs as community resources and using the results of the community assessment to design group activities are important steps in collectively addressing community health issues.

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Table 1. Basic characteristics of the study participants

n = 171

Basic characteristics of the study participants	*n or mean*	*% or SD*
Age [a)]		
Mean ± SD (years)	43.5	8.7
Gender		
Men	46	26.9
Women	125	73.1
Occupation [a)]		
Public health nurse	77	45.3
Social worker	45	26.5
Care worker	15	8.8
Occupational therapist	3	1.8
Other	30	17.6
Academic background		
Training school	19	11.1
Vocational school	72	42.1
Junior college	13	7.6
University	57	33.3
Graduate school	2	1.2
Other	8	4.7
Years of work experience [a)]		

Basic characteristics of the study participants	*n or mean*	*% or SD*
Mean ± SD (years)	13.6	9.2
Workplace [a)]		
Community General Support Center (Direct management) *	65	38.2
Community General Support Center (Commissioned) **	71	41.8
Preventive Care Center ***	34	20.0
The population size of the municipality where the workplace was established		
<5000	29	17.2
5000<, ＞10000	27	16.0
10000≦, >100000	44	26.0
100000≦	69	40.8
Years of support for a group [b)]		
Mean ± SD (years)	4.1	3.8

Note. a) n = 170, b) n = 169. * A municipal organization that supports efforts to improve the health of residents. ** An organization established by corporations, with a municipal mandate to support efforts to improve the health of residents. *** Subordinate organization of Community General Support Center.

Table 2. Characteristics of the support group

n = 171

Characteristics of the support group	*n or mean*	*% or SD*
Activity frequency		
Less than once a year	6	3.5
Once every six months	6	3.5
Once every 3-4 months	9	5.3
Once a month	43	25.1
Once every two weeks	33	19.3
At least once a week	74	43.3
Number of years of activity [a)]		
Mean ± SD (years)	5.7	5.8
Number of registered members [b)]		
1-20 people	94	57.3
21-40 people	55	33.5
41 people or more	15	9.1
Mean ± SD (people)	24.7	17.9
Change in the number of registered people in one-year [c)]		
Decrease	25	14.9
Almost unchanged	101	60.1
Increase	42	25.0
Degree of organizational development		

Characteristics of the support group	*n or mean*	*% or SD*
Creation stage	22	12.9
Adaptation stage	47	27.5
Maintenance stage	86	50.3
Development stage	16	9.4
Frequency of involvement		
Less than once a year	18	10.5
Once every six months	21	12.3
Once every 3-4 months	47	27.5
Once a month	52	30.4
Once every two weeks	22	12.9
At least once a year	11	6.4
Type of involvement		
Direct participation	62	36.3
Visiting the activity site(s) and watching others participate	62	36.3
Purely consultation-based	18	10.5
Outsourcing to external organizations	21	12.3
Other	8	4.7

Note. a) n = 162, b) n = 164, c) n = 168.

Figure 1. Awareness of support. The valid responses were 171. There were 170 people with awareness of promoting the organization.

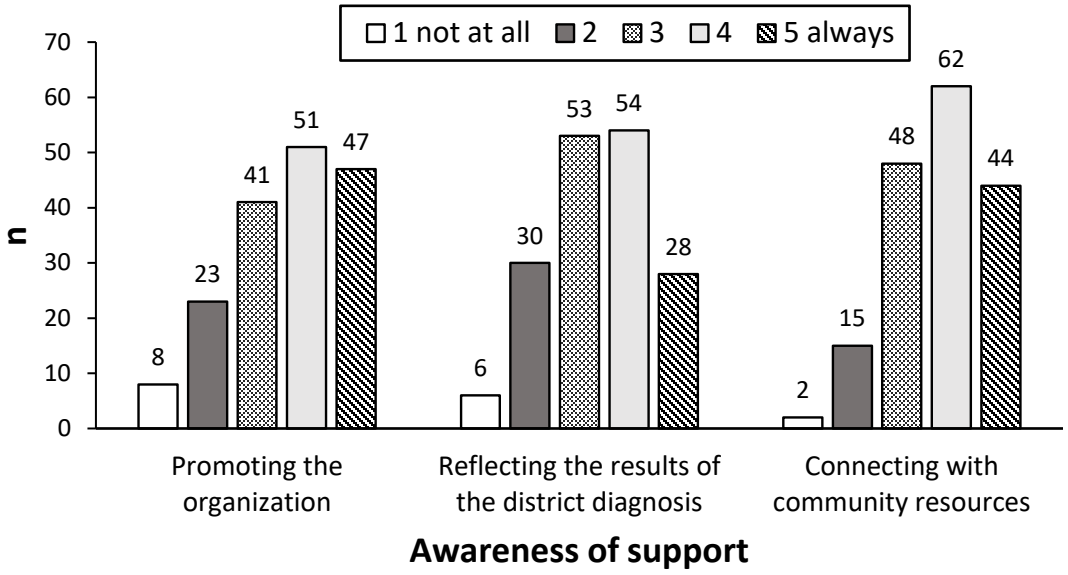


Table 3. Factor structure within the process of organizing groups

n = 171

Items of the process of organizing groups	Factor loading					
	1	2	3	4	5	6
Factor 1: Encouraging clarity with respect to the group's activity policy						
12. Encouraging members to define the purpose of a group activity	**.87**					
13. Encouraging members to set group activity goals	**.86**					
15. Encouraging all members to communicate group activity purposes and goals to other members	.63					
10. Instructing members to value trust in relationships	.60					
11. Encouraging acceptance of each other's opinions	.56					
Factor 2: Creating connections with other resources						
21. Encouraging members to interact with other preventive care groups		**.91**				
22. Encouraging members to cooperate with other preventive care groups		**.90**				
23. Encouraging members to cooperate with local organizations		.58				
20. Relaying information from other preventive care groups to members of one's own group		.48				

Items of the process of organizing groups	Factor loading					
	1	2	3	4	5	6
Factor 3: Fostering independence						
27. Encouraging members to plan activities			**.97**			
26. Encouraging members to make independent decisions about group operations			**.81**			
28. Telling group members that PHPs want to organize the group			.56			
25. Encouraging members to participate in such a way that everyone is allowed to play a role			.44			
Factor 4: Encouraging activity-evaluation						
18. Encouraging members to evaluate activities regularly				**.87**		
17. Encouraging members to review activities regularly				**.86**		
16. Encouraging members to keep a record of their activities				.65		
Factor 5: Creating relationships with group members						
4. Being considerate when conversing with other PHPs					**.86**	
5. Being considerate when consulting with other PHPs					**.84**	
3. Encouraging ease of communication					.70	
Factor 6: Understanding the strengths and weaknesses of communities and individuals						
6. Understanding members' health issues						**.81**

Items of the process of organizing groups	Factor loading					
	1	2	3	4	5	6
7. Understanding what motivates members to participate in group activities						.67
8. Understanding members' past experience of local activities						.61
14. Informing members about community health issues						.41

Note. The method of extraction was maximum likelihood factor analysis with Promax rotation. Cronbach's α: F1= 0.864, F2= 0.825, F3= 0.842, F4= 0.821, F5= 0.833, F6= 0.741. When the factor loading is 0.4 or more, the values are shown in the table as item has a significant effect on the observed variables, with the values of 0.8 or more highlighted in bold.

Table 4. Influential elements that affect efforts to successfully organize preventive care groups for older adults

n = 171

	Factor 1				Factor 2				Factor 3				Factor 4				Factor 5				Factor 6			
	OR	95% CI		p	OR	95% CI		p	OR	95% CI		p	OR	95% CI		p	OR	95% CI		p	OR	95% CI		p
Promoting the organization (1-2 (not at all))												*				*								
3	1.03	0.25	4.27		3.92	1.07	14.33	*	6.03	1.52	23.90	*	2.11	0.58	7.75		1.03	0.28	3.83		0.84	0.24	2.99	
4-5 (always)	1.88	0.50	7.10		1.29	0.38	4.38		2.94	12.32	51.67	*	1.72	0.49	6.04		2.73	0.76	9.76		1.99	0.55	7.25	
Reflecting the results of the district diagnosis (1-2(not at all))								*																*
3	2.62	0.70	9.85		3.35	0.96	11.74		0.54	0.15	2.02		2.09	0.62	7.10		1.30	0.39	4.39		0.95	0.28	3.21	
	Factor 1				Factor 2				Factor 3				Factor 4				Factor 5				Factor 6			

	OR	95% CI		p	OR	95% CI		p	OR	95% CI		p	OR	95% CI		p	OR	95% CI		p
4-5(always)	3.16	0.84	11.82		5.74	1.53	21.47	*	0.55	0.15	2.00		3.28	0.89	12.10		1.21	0.35	4.17		3.97	1.08	14.67	*
Connecting with community resources (1-2(not at all))																								
3	1.24	0.24	6.48		0.69	0.16	2.94		0.26	0.06	1.19		0.41	0.09	1.83		0.96	0.23	4.01		4.32	0.94	19.96	
4-5(always)	3.36	0.64	17.55		1.15	0.28	4.77		0.53	0.11	2.48		0.37	0.08	1.75		2.25	0.53	9.62		3.17	0.66	15.13	
Constant																								
model				*				*				*								*				*
Cox-Snell R^2		0.24				0.24				0.22				0.20				0.22				0.26		
Nagelkerke R^2		0.33				0.32				0.30				0.26				0.30				0.35		

Hosmer and Lemeshow Test	0.30	.97	.16	.85	.40	.14
Discriminative predictive Value	74.7	68.8	72.1	70.1	74.7	69.5
Dependent variable	0: ~3.0, 1: 3.0~	0: ~2.9, 1: 2.9~	0: ~3.1, 1: 3.1~	0: ~2.3, 1: 2.3~	0: ~4.1, 1: 4.1~	0: ~3.2, 1: 3.2~

Note. *p<.05, **p<.01. Adjustment variables: activity frequency, number of years of activity, change in the number of registered people in one year, degree of organizational development, frequency of involvement, type of involvement, institution, and number of registered people. No multicollinearity was observed because no variance inflation factor was greater than “2” between the characteristics of the support group and workplace, the adjustment variables, and the awareness of support, the independent variables.