The Influence of Social Exclusion on the Mental Health of the Disabled: The Moderating Effect of Social Support

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<Abstract>

The purpose of this study was to examine the relationship between the social exclusion and mental health in persons with disabilities, to explore the moderate effect of social support on those relationship and to suggest practical implications for social work services for those persons with disabilities. Data for this study were collected through the use of a survey instrument completed by 179 samples from persons with disabilities who live in jeolla-do. Collected data were analysed by moderated multiple regression. The findings of this study were as follows: First, the social support had moderate effect on relationship between social exclusion and self-esteem. Second, the social support had moderate effect on relationship between social exclusion and depression. Based on these findings, the research discussion reinforced the importance of social exclusion, social support and mental health, and suggested effective intervention programs.

[Keywords] the disabled, social exclusion, social support, depression, self-esteem, mental health.

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I. Introduction

Currently, Korea's disabled population is rapidly on the rise due to the aging of population, industrial disasters, and new diseases. According to Korea Institute for Health and Social Affairs (KIHASA), the number of registered disabled persons in Korea grew by about 25.8% from 1,699,329 in 2005 to 2,137,226 in 2008 (Choi 2009, 47). Such increase in the disabled population led to efforts to obtain their rights, and corresponding with such efforts, diverse social policies related to disabled persons are being pursued. In particular, the Welfare Law for Persons with Disabilities was entirely revised in March 2007 with changes into the legal system where disabled persons' rights are guaranteed, not just dispensation (Kim 2009, 34-35; Foley and Chowdhury 2007, 380-381). However, despite such social efforts, disabled persons are still undergoing social discrimination and perceived as inferior beings (Jeon 2010, 52-53). According to KIHASA (2008), 79.7% of Korean disabled persons perceived that there was discrimination against them (Kim 2009, 6-11) and Kim, Park, Lee, and Kim (2010, 19) verified that ordinary people had socially negative attitudes toward persons with disabilities.

What we can estimate from the above is that Korean disabled persons's health level is low. Mental health means "enjoying our life and having emotional and mental resilience to endure pain, anguish, and despair (Gilbert and Bates et al. 2010, 3). The reason we should pay attention to mental health of the disabled at this time point is that mental health is an important scale with which we can know whether the disabled are leading a satisfactory life (Rho and Son 2011, 114; Yang and Park et al. 2010, 144). In particular, when the disabled' mental health problems become diseases, this does not end in individuals but is expanded to the local community. The World Health Organization (2003, 7). indicated that an average of two percent of growth national product was spent for mental diseases and productivity of Britain decreased by 45% due to mental diseases.

For such reasons, the academic world deals with mental health problems with importance and previous research focused on physical defects and the resulting poverty and discrimination as a factor affecting the disabled' mental health (Lee and Kang 2009; Kim and Sim 2005; Jeon 2010; Yanagita and Willcox et al. 2006). However, clearly understanding the disabled's mental health problems only with physical defects, poverty, and discrimination has some limitation. The reason is that mental health does not simply mean the condition with no disease but implies some comprehensive meaning such as physical, mental, and social well-beings (WHO 2003, 7). In other words, in order to clearly understand the disabled's mental health problems, understanding in diverse contexts is necessary in addition to physical defects, poverty, and discrimination (Rho and Son 2011, 129; Halleröd and Larsson 2008, 15-16). Attention to the concept of social exclusion as such cause is growing in analyzing the disabled' mental health problems. Social exclusion not only includes the traditional concept of poverty understood by income and expenditure but also encompasses diverse areas such as health and relationship networks (Kim 2007, 229; European Disability Forum 2003, 7). Korea Institute for Health and Social Affairs (2008, 20) also defined that social exclusion was failure to participate in social activities resulting

from discrimination in various areas, or infringement on basic rights as human beings because of failure to receive support from the community. Such social exclusion has an important meaning in terms of social welfare. It is a drive for social changes and the ground to obtain social justice for provision of social welfare services. By using the concept of exclusion which emphasizes individuals' basic rights rather than an approach of poverty which triggers ideological disputes on welfare, it becomes a mechanism to develop into a policy agenda. The reason is that in order to measure social exclusion, the vulnerable class' experiences of exclusion in their ordinary life should be measured and in order to resolve such problems of exclusion in ordinary life, expansion of social welfare services should be made (Yoo 2011, 219-220; Morris and Barnes et al. 2009, 231-235). Under such context, previous research (Rho and Son 2011; Johner and Maslany et al. 2009; Curran and Burchardt et al. 2007; Marrington-Mir and Rimmer, 2006) supported significance between social exclusion and mental health.

Meanwhile, previous research supports that mental health differs according to the level of social exclusion. However, despite significance between social exclusion and mental health, there exists some limitation in understanding the context of relationship between the two variables. This means that despite experience of the same social exclusion, individuals' level of mental health differs. As a cause of such phenomenon, Lee and Kahng (2009, 194) pointed out the disabled's mental health differed according to differences in social support, one of coping resources. Social support, a coping resource, plays the role of a buffer for mental health against negative experiences of the disabled. Social support refers to a resource obtained through relational interaction with social members in order for individuals to cope with pressure (Uchino and Kiecolt-Claser 1996, 521-525; House 1981, 39). In particular, the reason why the role of social support is important as a coping resource in relationship between the disabled's social exclusion and mental health is that concrete understanding of which social support relieves the negative influence of social exclusion on mental health is possible, given that the concept of social exclusion is a mechanism which derives social support to resolve the problem of exclusion of the disabled.

Accordingly, this study aims to overcome the limitations of prior research by verifying the moderating effect of social support, a coping resource, in relationship between social exclusion and the disabled' mental health. The result of such research will provide a theoretical ground for methods to intervene in the actual spot of social welfare practice aimed at improving the disabled' mental health.

II. Theoretical Background and Previous Research

1. Social Exclusion

Old social risks mean individuals' problem of poverty resulting from unemployment and the government focuses on intervention by income guarantee in order to resolve such problem. However, during the recent economic and social transition period, new social risks (low childbirth, aging, working poverty, income polarization, fixation of class mobility, and opportunity loss) occurred and existing intervention is hard to resolve them (Lee 2009, 31). The notion of social exclusion has been

raised as part of attempts to approach new social risks from new angles (Gordon and Levitas et al. 2000, 85-91). However, the concept of social exclusion is understood as a multi-dimensional meaning including economic, social, political, and cultural aspects (Silver 2007, 15). However, multiple factors triggering exclusion exist and each triggering factor strengthens exclusion through interaction and therefore an agreement on the concept has not been made yet (Silver and Miller 2003, 12-15; Yoo 2011, 219).

Accordingly, social exclusion is differently defined by scholars. Silver (1994) defined social exclusion was a condition under which opportunities to approach and utilize social resources were not given to certain individuals or groups. Gordon and Levitas et al. (2000, 54) categorized social exclusion in four different levels--exclusion in adequate income and resources, labor market, services, and social relationship. Arthurson and Jacobs (2003, 8) viewed social exclusion was a condition under which participation in mainstream society activities or leading a certain life standard was restricted. European Disability Forum (2003, 7) defined social exclusion with activity level, educational achievements, housing, education, subjective evaluation about maintenance of livelihood and the degree of satisfaction with health and welfare as well as mere income and expenditure. Kim and No et al. (2008) explained social exclusion with labor, income, housing and medical service, which are important parts of ordinary life, education, family relationship, and participation in social activities. The concept of social exclusion is understood as systematic discrimination by the mainstream group toward the non-mainstream group and focuses on understanding of the underprivileged class such as the poor or the disabled.

Meanwhile, social exclusion not only influences interaction among sub-variables but also is a factor which strengthens exclusion (Silver 1994, 536). Yeo (2001, 11) who analyzed the disabled's route to social exclusion presented the following route to social exclusion. First, physical and mental damages occur to individuals and as a result the individuals experience discrimination and disability, and they are excluded from official/unofficial education and employment, social contact, political and legal participation, and basic health treatment. The result is non-proficient skills, low self-esteem, lack of ability to argue for one's rights, and weak mental and physical conditions. Due to such characteristics, their opportunities to create income are restricted and they become chronically poor, which in turns aggravates social exclusion and increases damages resulting from diseases and accidents.

Based on the above discussions, social exclusion is defined as objective and subjective evaluation on the condition under which activities in education, labor, social participation, health, housing, finance, and family areas are restricted or leading a certain level of life is limited.

2. Social Exclusion and Mental Health of the Disabled

Health is composed of physical, social, and mental factors, and recently in the academic world the importance of mental health has emerged (Kim and Sim 2005, 989). Mental health means a mentally healthy condition essential for a happy and healthy life (Kim and

Ahn 2004, 206; Gilbert and Bates et al. 2010, 3). Such mental health of the disabled is explained in diverse forms according to research purposes without an agreed notion (WHO 2003, 7), but previous research (Lee 2010; Yang and Park 2010; Bae and Kim 2009; Kim and Sim 2005; Kim and Kim 2002) has discussed mental health undergone by the disabled with the concept of depression and self-esteem. In actuality, Korea Welfare Panel Study categorized mental health into depression and self-esteem (Korea Institute for Health and Social Affairs and The Social Welfare Research Center 2008). In this context, this study measured the disabled's mental health with depression and self-esteem. Moreover, relationship between social exclusion experienced by the disabled and mental health (depression, self-esteem) examined in more detail is as follows.

First, depression[1)] means an unpleasant condition felt by an individual including a sense of valuelessness, a sense of hopelessness, pessimism, stagnation, and grief (Lewinsohn and Antonuccio 1984, 2), and triggers low-spiritedness, low energy, critical thoughts, lack of motives, and weakened vitality (Kim and Chung 2001, 320; Eby and Eby 2006, 1-2). In particular, the disabled's depression is more serious than that of the non-disabled. Garaigordobil and Pérez (2007, 146) noted that those with intellectual disability had a higher sense of depression than the non-disabled and Cho (2011, 361) reported that while 31.2% of the disabled group felt depression while only 14.5% of the non-disabled had depression. Diverse factors which influence the disabled's depression such as decrease in income, disability duration, education, employment, income, and housing are discussed (Meyer and Mok 2009, 49, 53; Arthurson and Jacobs 2003, 8; OECD 2008, 1) but recently interest in social exclusion encompassing them is increasing. In particular, experience of social exclusion is evaluated as a factor which can best predict the disabled' depression, and Rho and Son (2011, 130) conducted regression analysis, with demographic and employment-related variables and the variable of social exclusion as independent variables, and found that the degree of social exclusion most greatly affected depression (Grut and Ingstad 2005: Yeo 2001). In other words, ordinarily, the disabled experience more social exclusion than the non-disabled and experience of a high level of social exclusion triggers a stressful situation and such continuous stressful situation causes the disabled's cognitive vulnerability, resulting in their increased depression (Beck 2008, 972).

Second, the disabled undergo direct and indirect exclusion as social discrimination and come to have a sense of inferiority due to such experience of exclusion. In particular, learning of a sense of inferiority dwarfs the disables with a negative fixed idea about

1) According to the diagnosis standard by the fourth edition of Diagnostic and Statistical Manual of Mental Disorders(Park and Kim, 2011: 362-363), depression may be divided into major depression and minor depression but when depression is dimensionally defined in the clinical field or research, depression is classified into severe, moderate, and mild depression(Hegarty, 2005 : 8). Different research reported that the depressed accounted for 0.15 to 55% of the population. To look at the disabled's experiences of depression, Choi, Kim, Kim and Lim(2011: 8) who measured depression of the disabled in the local community noted that when the score was 21 points or higher, the person had major depression and most disabled persons had major depression whose average score was 35.7 points and whose minimal score was 20 points, and Broadhead and Blazer et al. (1990) reported that 33% among 2980 disabled persons in the local community had undergone major or mild depression for the past six months.

themselves, lowers their will to challenge a new work, and impedes their active participation, resultantly negatively affecting their self-esteem (Leary 1999, 34). Jeon (2010, 78) verified statistically significant correlation between the disabled's experiences of discrimination and self-esteem and Lee (2007, 57) reported that as the physically challenged's low evaluation of themselves, people's avoidance of contact with them, and discrimination against them increased, their self-esteem was lowered. Self-esteem[2] is evaluation of emotional and cognitive aspects about one's characteristics and means major resources with which one can cope with different life problems (Greenberga and Solomonb et al. 1992: 970). In particular, the disabled were found to have lower self-esteem than the non-disabled; Grut and Ingstad (2005, 42) explained that the disabled formed low self-esteem and Garaigordobil and Pérez (2007, 146) reported that self-esteem of the disabled was lower than that of the non-disabled. In Korea, the disabled's self-esteem score was 2.773 in Lee and Kahng (2009, 206)'s research while the non-disabled's self-esteem was 3.024, as measured by the same self-esteem scale (Lee and Lee 2010, 290). The disabled's experience of social exclusion had an important influence on their self-esteem and Yeo (2001) noted that social exclusion affected their self-esteem.

3. The Moderating Effect of Social Support for Mental Health

Social support refers to coping resources obtained from other society members to cope with pressure undergone by an individual (Uchino and Kiecolt-Claser 1996, 521-525; House 1981, 39). In other words, social support is obtained from social relationship and means all forms of environmental resources such as recognition, love, material aid, and information provision and plays the role of helping adaptation within a society by increasing humans' ability to control the environment (Shin 2007). In particular, social support has been reported to have a significant effect on mental health and the detailed content is as follows.

According to previous overseas research on social support and mental health, Buckelew and Baumstark et al. (1990) reported that social support, a coping resource used by the disabled, played a more important part in their mental health than their age, degree of disability, disability duration, control over health, and faiths. In addition, Beedie and Kennedy (2002) indicated that social support perceived by the disabled with spinal cord injury was a mechanism to decrease their sense of depression and Cagnetta and Cicognani (1999) explained that unofficial support base such as family, relatives, friends, and neighbors had an important effect on mental health of the economically, physically, and socially vulnerable disabled. Turner and Noh (2010, 761) reported that when demographic characteristics, life events, and activities of daily living were controlled, the physically disabled's sense of depression decreased when social support level was high. Most domestic previous studies reported that the higher the disabled's degree of perception about social support, the more positively their mental health was influenced. Lee (2003) explained that support for the

2) Self-esteem means evaluation of mental aspects in a cognitive dimension and mental aspects include positive and negative aspects (Garaigordobil and Dura 2005, 54). Therefore, when one perceives that one is valuable and evaluates oneself as a positive existence, one's self-esteem is high (Jordan and Spencer 2003, 970).

disabled to lead an independent life was a factor which could decrease their sense of depression and Lee (2010) verified that there existed positive correlation between social support perceived by those with epilepsy and their self-esteem. Likewise, Yang and Lee et al. (2008, 18) reported that social support significantly improved the disabled's self-esteem.

Social support not only has a direct effect on the disabled's mental health but also acts as a buffer between negative stress sources and their mental health. According to the stress-buffering hypothesis. influence by various stress sources on mental health was decreased when one had high level of social support (Cohen and Kamarck et. al. 1983). Jeon (2010) explained that in relationship between the disabled's stress sources and their depression unofficial material support was a significant moderating variable. Eom (2008) also verified that social support had a moderating effect on depression. Therefore, it can be estimated that social support, a major coping resource, was a mechanism decreasing negative influence by stress sources on the disabled's mental health.

To summarize, while social support for the disabled is a factor directly influencing their mental health, it is a coping resource which decreases influence by negative stress sources in relationship between negative stress sources and mental health.

III. Analysis Methods

1. Study Model

This study aims to examine the moderating effect of social support, a coping resource, in relationship between social exclusion perceived by the disabled and their mental health. Based on the previous studies above, this study formed a study model, as shown in Figure 1.

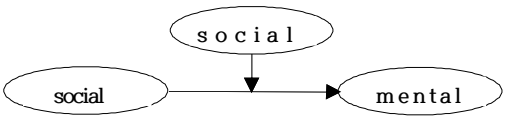

Figure 1. Study Model

2. Subjects

This study aims to verify the moderating effect of social support, a coping resource, in relationship between social exclusion perceived by the disabled and their mental health. Toward this end, cooperation from a welfare center of the disabled located in Jeolla-do, was obtained and a survey on the users of the welfare center who agreed to participate in the survey was conducted. The survey period was 14 days from August 1 to 24, 2012. A total of 183 questionnaires were collected and 179 questionnaires excluding four questionnaires with insincere answers were used for analysis.

3. Measurement Tool

1) Mental Health

Operational definition of mental health was made with depression and self-esteem. The detailed content is as follows.

(1) Depression

Depression means an unpleasant condition felt by an individual including a sense of valuelessness, a sense of hopelessness, pessimism, stagnation, and grief. In order to measure such sense of depression, Center for Epidemiologic Studies Depression Scale-11 developed by Radloff (1977) was used. This

scale is a standardized scale asking moods for the last one week(Korea Institute for Health and Social Affairs and The Social Welfare Research Center of Seoul National University, 2008). This study measured psychological condition for the last one week at the time of survey and each question was composed of 5 score Likert scale from one point which means "disagree very strongly" to five points which signifies "agree very strongly." Therefore, the higher the score, the higher the respondent's depression. In this study, Cronbach' α coefficient, which refers to reliability of depression scale, was .890.

(2) Self-esteem

Self-esteem is evaluation on one's characteristics in mental and cognitive terms and means trust toward oneself. In order to measure the subjects' self-esteem, Rosenberg's self-esteem scale was used (Korea Institute for Health and Social Affairs and The Social Welfare Research Center 2008). Each question was composed of 5 score Likert scale from one point which means "disagree very strongly" to five points which signifies "agree very strongly." Therefore, the higher the score, the higher the respondent's self-esteem. In this study, Cronbach' α coefficient, which refers to reliability of self-esteem scale, was .916.

2) Social Support

Social support refers to a cope resource obtained through relational interaction with social members in order for individuals to cope with pressure. In order to measure such social support, a scale reorganized by Yun (2001) from a social support scale composed of 27 questions developed by Park (1985) was utilized. each question was composed of 5 score Likert scale from one point which means "disagree very strongly" to five points which signifies "agree very strongly." Therefore, the higher the score, the higher the respondent's social support. In this study, Cronbach' α coefficient, which refers to reliability of social support scale, was .916.

3) Social Exclusion

Social exclusion means a condition under which opportunities to approach and utilize social resources are not given to certain individuals or groups. In order to measure such social exclusion, a social exclusion scale verified by Yun (2012) was used. each question was composed of 5 score Likert scale from one point which means "disagree very strongly" to five points which signifies "agree very strongly." Therefore, the higher the score, the higher the respondent's social exclusion. In this study, Cronbach' α coefficient, which refers to reliability of social exclusion scale, was .935.

4) Control Variables

As control variables, this study selected gender, age, educational level, beneficiary rights, and disability duration which significantly influenced the disability's mental health. In particular, dummy treatment of variables of gender (male=1, female=0), educational level (college graduates=1, others=0), and beneficiary rights (those with beneficiary rights=1, those without beneficiary rights=0) was made.

4. Measurement Tool

The collected data were analyzed using SPSS 17.0 for Windows under the following method to correspond with the purpose of this study. First, frequency analysis and descriptive statistics were conducted in order to examine

Table 1. General Characteristics

Item		N	%	mean
Gender	Male Female	97 82	54.2 45.8	
Age	Those in their 30s or younger Those in their 40s Those in their 50s Those in their 60s or older	53 41 34 44	30.8 23.8 19.8 25.6	48.17
Educational Level	Those who are uneducated Elementary school graduates Middle school graduates High school graduates College graduates	8 32 31 79 26	4.5 18.2 17.6 44.9 14.8	
beneficiary rights	Yes No	35 134	20.7 79.3	
Disability Duration	Shorter than 10 years From 10 years to 29 years 30 years or longer	40 47 51	29.0 34.1 37.0	

the subjects' demographic characteristics and traits of major variables. Second, correlation analysis was made in order to check multicollinearity of major variables. Third, hierarchical multiple regression analysis was carried out in order to examine the effects of social exclusion of the disabled on their mental health (self-esteem, depression). Moreover, it was assumed that relationship between the disabled's social exclusion and mental health (self-esteem, depression) would be influenced by a third variable, social support. This study converted independent and moderating variables into standardized scores in order to prevent errors of interaction term interpretation resulting from multicollinearity and estimate distortion.

IV. Analysis Results

1. The Respondents' Demographic Characteristics

The respondents' demographic characteristics are presented in Table 1. The number of males was 97 (54.2%) and the number of females was 82 (45.8%). The average age of the respondents was 48.17 years old. The number of those in their 30s was largest at 53 (30.8%), followed by the number of those aged 60 or older at 44 (25.6%), the number of those in their 40s at 41 (23.8%), and the number of those in their 50s at 34 (19.8%). As for their educational level, the number of high school graduates was greatest at 79 (44.9%), followed by the number of elementary school graduates at 32 (18.2%), the number of middle school graduates at 31 (17.6%), the number of college graduates at 26 (14.8%), and the number of those who were uneducated at 8 (4.5%). Then, regarding whether the respondents received benefits of the national basic livelihood guarantee system, the number of those who responded that they did not receive the benefits was 134 (79.3%) while the number of those who answered that they received the benefits was just 35 (20.7%). Finally, with regard to the disability duration of the respondents, the number of those whose

disability duration was 30 years or longer was largest at 51 (37%), followed by the number of those whose disability duration was from 10 years to 29 years at 47 (34.1%) and the number of those whose disability duration was shorter than 10 years at 40 (29.0%).

Independent Variables

Table 3 shows correlation among the independent variables. Most variables' correlation was .346 or lower. Therefore, serious multi-collinearity among the independent variables did not occur.

Table 2. Descriptive Statistics of Major Variables

Item	Range	Min	Max	Mean	SD
self-esteem	1-5	1.60	5.00	3.40	.58
depression	1-5	1.00	4.15	2.42	.72
social exclusion	1-5	1.60	4.95	2.88	.61
social support	1-5	1.00	5.00	3.49	.96

Table 3. Correlation of Study Variables

Variable	A	B	C	D	E	F	G
Gender(A)	1						
Age(B)	-.265***	1					
Educational Level(C)	-.038	-.085	1				
Beneficiary rights(D)	.051	.233**	-.087	1			
Disability Duration(E)	.067	-.144	-.103	.127	1		
social exclusion(F)	.000	.346***	-.172*	.235**	-.052	1	
social support(G)	-.209**	-.086	.171*	-.202**	-.009	-.232**	1

*p < .05, **p < .01, ***p < .001
Note: (Dummy Variables) - (Gender) Male = 1, (Educational Level) College graduates = 1, (beneficiary rights) Yes = 1.

2. Descriptive Statistics

Table 2 shows the characteristics of major variables. The respondents' self-esteem score (from one point to five points) was an average of 3.40 points (SD .58). Their depression score (from one point to five points) was an average of 2.42 points (SD .72). Their social exclusion score (from one point to five points) was an average of 2.88 points (SD 0.61). Their social support score (from one point to five points) was an average of 3.49 points (SD .96).

3. Verification of Correlation and Multicollinearity among the

4. The Moderating Effect of Social Support in Relationship between Social Exclusion and Mental Health

Hierarchical regression analysis was conducted in order to examine the moderating effect of social support in relationship between social exclusion and self-esteem perceived by the disabled. Table 4 shows the content. In Model 1, relative influence of independent

Table 4. Verification of the Moderating Effect of Social Support in Relationship between Social Exclusion and Self-esteem

Variable	Model 1			Model 2			Model 3		
	B	*β*	*t*	*B*	*β*	*t*	*B*	*β*	*t*
Gender	-.159	-.080	-.919	.060	.030	.404	.091	.046	.618
Age	.005	.076	.836	.014	.212	2.680**	.014	.206	2.628*
Educational Level	-.012	-.004	-.050	-.220	-.081	-1.110	-.217	-.080	-1.109
Ownership of Beneficiary Rights	-.238	-.100	-1.122	.071	.030	.389	.082	.034	.452
Disability Duration	.002	.026	.303	.001	.013	.181	.001	.017	.234
social exclusion (A)				-.351	-.326	-4.226***	-.365	-.339	-4.428***
social support (B)				.463	.441	5.877***	.439	.419	5.573***
A × B							-.160	-.144	-2.001*
	constant = -.088 R^2(adj.) = .022(.-.013) F = .628			constant = -.684 R^2(adj.) = .319(.284) F = 9.104*** ⊿R^2 = 29.7			constant = -.715 R^2(adj.) = .339(.299) F = 8.642*** ⊿R^2 = 2.0		

*p< .05, **p< .01, ***p< .001
Note: (Dummy Variables) - (Gender) Male = 1, (Educational Level) College graduates = 1, (beneficiary rights) Yes = 1.

variables--gender, age, educational level, beneficiary rights, and disability duration which affected the disabled's self-esteem in previous research--was examined. In Model 2, the variables of social exclusion and social support were additionally input to look at their influence and changes in their explanatory power. Moreover, in Model 3, the term of interaction was input to analyze the moderating effect of social support. In Model 1, gender, age, educational level, beneficiary rights, and disability duration's explanatory power on self-esteem was 2.2% but significance was not discovered. In Model 2, the variables of social exclusion and social support were input with gender, age, educational level, beneficiary rights, and disability duration controlled, and explanatory power on self-esteem was 31.95%, with significant increase by 29.7% compared to model 1. Moreover, social support (β = .441) had the highest relative influence on self-esteem, followed by social exclusion (β = -.326) and age (β = .212). In Model 3, with gender, age, educational level, beneficiary rights, disability duration, social exclusion, and social support controlled, the term of interaction (social exclusion×social support) was input, and explanatory power on self-esteem was 33.9%, with a significant increase by 2.0% relative to the Model 2. Moreover, self-esteem was reported to have statistical significance in relation to the interaction term (social exclusion×social support) at β = -.144. In other words, there exists the moderating effect of social support in relationship between social exclusion and self-esteem.

Hierarchical regression analysis was conducted in order to examine the moderating effect of social support in relationship between social exclusion and depression perceived by the disabled. Table 5 shows the content. In Model 1, relative influence of independent variables - gender, age, educational level, beneficiary rights, and disability duration which

affected the disabled's depression in previous research - was examined. In Model 2, the variables of social exclusion and social support were additionally input to look at their influence and changes in their explanatory power. Moreover, in Model 3, the term of interaction was input to analyze the moderating effect of social support. In Model 1, gender, age, educational level, beneficiary rights, and disability duration's explanatory power on depression was 10.6% and statistical significance was dicovered. In Model 2, the variables of social exclusion and social support were input with gender, age, educational level, beneficiary rights, and disability duration controlled, and explanatory power on depression was 44.5%, with significant increase by 33.9% compared to model 1. Moreover, social exclusion(β= .525) had the highest relative influence on depression, followed by social support (β = -.282), age(β = -.163) and rship of Beneficiary Rights (β = .142). In Model 3, with gender, age, educational level, beneficiary rights, disability duration, social exclusion, and social support controlled, the term of interaction (social exclusion×social support) was input, and explanatory power on depression was 46.7%, with a significant increase by 2.2% relative to the Model 2. Moreover, depression was reported to have statistical significance in relation to the interaction term (social exclusion×social support) at β = -.152. In other words, there exists the moderating effect of social support in relationship between social exclusion and depression.

Table 5. Verification of the Moderating Effect of Social Support in Relationship between Social Exclusion and Depression

Variable	Model 1			Model 2			Model 3		
	B	*β*	*t*	*B*	*β*	*t*	*B*	*β*	*t*
Gender Age Educational Level beneficiary rights Disability Duration	-.135 .005 -.265 .660 -.001	-.067 .076 -.096 .272 -.018	-.803 .884 -1.171 3.205** -.217	-.326 -.007 -.021 .344 .000	-.163 -.100 -.008 .142 -.002	-2.396* -1.402 -.117 2.053* -.036	-.360 -.006 -.024 .333 .000	-.179 -.094 -.009 .137 -.006	-2.672** -1.330 -.135 2.016* -.097
social exclusion (A) social support (B)				.575 -.301	.525 -.282	7.550*** -4.165***	.590 -.275	.539 -.258	7.849*** -3.832***
A × B							.171	.152	2.354*
	constant = -.225 R^2(adj.)= .106(.073) F = 3.257**			constant = .469 R^2(adj.) = .445(.416) F = 15.579*** ⊿R^2 = 33.9			constant = .502 R^2(adj.) = .467(.435) F = 14.780*** ⊿R^2 = 2.2		

*p< .05, **p< .01, ***p< .001
Note: (Dummy Variables) - (Gender) Male = 1, (Educational Level) College graduates = 1, (beneficiary rights) Yes = 1.

V. Conclusion

This study aims to verify the moderating effect of social support, a coping resource, in

relationship between social exclusion and the disabled's mental health. The detailed content is presented as follows.

In relationship between social exclusion and the disabled's self-esteem, the moderating effect of social support is as follows. Social exclusion perceived by the disabled has significant effect on self-esteem and the moderating effect of social support in relationship between social exclusion and self-esteem was verified. The results was consistent with previous research results that although social exclusion affects the disabled's self-esteem, its influence is offset by the moderating effect of social support (Lee 2010; Yang and Lee et al. 2008; Yeo 2001). The moderating effect of social support in relationship between social exclusion perceived by the disabled and their depression is as follows. Social support was found to play a moderating role in the process of social exclusion affecting depression. In other words, when social exclusion is high, the disabled's depression increases. However, the influence by social exclusion on depression is low in the disabled with high social support and the influence by social exclusion on depression is high in the disabled with low social support. This is consistent with previous research results in which social exclusion affects depression (Rho and Son 2011) and the significance of social support on depression has been proven (Lee 2010; Yang and Lee et al. 2008). Such research results mean that in order to decrease the disabled's depression or increase their self-esteem, mere intervention in social exclusion has limitation and therefore together with intervention to reduce social exclusion, intervention to strengthen social support should be made at the same time. Measures to intervene to increase mental health (depression, self-esteem) based on this study result are discussed as follows.

First, social exclusion had significant effect on the disabled's self-esteem and depression. The disabled continuously experience different types of direct and indirect exclusion due to social prejudice and discrimination. Because of such experiences, they undergo a sense of inferiority and such learning of a sense of inferiority constricts themselves with negative fixed ideas, resulting in their low self-esteem or increase in their depression. Therefore, management of social exclusion affecting their self-esteem or depression is needed. For example, in order to overcome social exclusion they experience, they should understand social exclusion themselves and nurture strength to bring up the problem of social exclusion. That is, educational programs like "understanding of social exclusion" for the disabled are necessary.

Second, the moderating effect of social support in relationship between social exclusion and the disabled's self-esteem and depression was verified. When developing a social welfare program to intervene in self-esteem and depression of the disabled which are negatively affected by social exclusion, a main focus should be made on the environmental system surrounding them rather than mere social exclusion and self-esteem and depression, their internal aspects. In particular, in order to get over social exclusion of the disabled in the local community, movements to advocate their rights should be carried out in the local community. To this end, efforts to lower social exclusion through promotion, campaigns, and inducement of changes in policies are needed. In addition, through the support system where their family members or local community participates, practical aid should be provided.

Toward this end, efforts to maintain smooth relationship with the support system such as their family, acquaintances, viable systems, and governmental organizations are needed. In particular, for the disabled for whom a weak support system is formed, program development by social welfare institutions or the government is necessary.

Meanwhile, the limitations of this study and proposals for follow-up research are as follows. First, this study examined causal relationship among major variables at a certain time point. However, to look at more precise causal relationship among them, a longitudinal study is necessary. Second, this study examined only the moderating effect of social support in relationship between social exclusion and mental health (self-esteem, depression). However, in order to understand the more abundant context of relationship between social exclusion and mental health (self-esteem, depression), research where diverse psychological and social variables related to the disabled are input should be conducted. Lastly, due to the limited regional coverage of this study, it is difficult to generalize this study result.

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