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Research Paper

Stress Coping Strategies of Persons With Congenital Physical Disabilities Who Depend on Wheelchairs

Management

KEYWORDS : stress, coping strategy, congenital disability, wheelchair

Matsuura Yoshimasa	Osaka Prefecture University, Research Organization for University-Community Collaboration
Demura Shinichi	Kanazawa University, Graduate School of Natural Science& Technology,
Tanaka Yoshiharu	Osaka Prefecture University, Faculty of Liberal Arts and Sciences

ABSTRACT

This study aims to contribute to the literature by examining stress coping in persons with congenital physical disabilities who depend on wheelchairs and the relationship between several coping strategy factors. Among six stress coping factors, namely problem solving, positive cognitive coping, seeking social support, avoidance, wishful thinking and self-blame, positive cognitive coping was significantly lower in the disability group than in the group without disability. Factors of seeking social support, avoidance, wishful thinking and self-blame were mutually related regardless of ability or disability. Problem solving and positive cognitive coping were also related, but the relationship was more significant in the disability group. Persons with physical disabilities may cope with the stresses of daily life in almost the same way as persons without physical disabilities. In addition, the relationships between problem solving/positive cognitive coping and seeking social support/self-blame are specific to persons with congenital disabilities.

Introduction

Modern society is often described as stressful (Trossaman, 2013; Kataoka et al., 2012; Tyler et al., 2009; Hashimoto et al., 1990), and many people find it difficult to avoid stress in their daily lives.

According to the White Paper on the National Lifestyle Fiscal Year 2008, (Cabinet Office of Japan) 60% of Japanese people in the age group of 20–50 live with constant stress.

Against this background, methods of stress coping by otherwise healthy persons (Nakano, 1991/92; Kato, 2000; Saito & Sugawara, 2007) have been frequently studied, and other stress-relieving methods have been reported. Stress in modern society is a serious problem for people with disabilities; hence, the stress coping of people living with and without disabilities should be examined.

Nakayama et al. (2007) analysed stress coping factors of persons with physical disabilities and reported on the stress-reduction effects of swimming. Inadequate stress coping methods, such as increasing consumption of alcohol and unhealthy foods, had significantly higher rates among persons without disability.

Using the WCCL and the Profile of Mood States (POMS), Crumlish (1994) examined patients' stress coping methods and emotional responses before and after cardiac surgery and clarified that responses on both instruments changed significantly after surgery. However, no differences were reported on problem-focused coping and avoidance items.

Using the Japanese version of the Ego Aptitude Scale and the Lazarus Stress-coping Inventory, Kusaka et al. (2002) examined stress coping for 50 intellectually disabled persons at a psychiatry clinic and 82 university students.

The intellectually disabled persons scored significantly lower in total points for ego and attitude and higher in the rate of escape and separation from stress coping than university students.

However, the above studies focused on persons with specific or acquired disabilities, and the study of persons with major structural disabilities, such as congenital physical disabilities who depend on wheelchairs is scarce.

Moreover, the survey of stress coping among persons with physical disabilities by Health and Welfare Services for the Persons with Disabilities in Japan (2008) and the White Paper on the Annual Report on Government Measures for Persons with Disabilities of Japan (2014) did not address specific stress coping methods among persons with physical disabilities.

Based on the above, this study aimed to compare the stress coping features of persons with congenital physical disabilities who depend on wheelchairs with those of persons without disability.

Methods

Participants

We selected 68 persons with congenital physical disabilities who depend on wheelchairs (37 males, 44.8 ± SD of 13.4 years; 31 females, 48.7 ± SD of 11.2 years) and 110 persons without disabilities (47 males, 41.5 ± SD of 13.0 years; 63 females, 43.1 ± SD of 11.2 years) as participants in this study.

The average age difference between the two groups was significant. However, an effect size ($\eta 2 = 0.03$) was very small.

We obtained informed consent from the participants after explaining to them in detail the purpose and procedure of the experiment.

Conditions of participants with congenital physical disabilities who depend on wheelchairs included cerebral palsy, muscular dystrophy, rheumatism, somatic dysfunction, trunk muscle dysfunction and upper limb or lower limb dysfunctions.

Occupations of the persons without disabilities ranged from office worker, care worker, healthcare worker and homemaker to clerical, university or restaurant staff.

In this study, persons with physical disabilities were defined as the physical disabilities group, and persons without disabilities were defined as the without disabilities group.

Questionnaire

The questionnaire was constructed of items on disability names and general attributes, in addition to Nakano's (2013) Japanese version of the WCCL coping scale that was composed of 47 items on the following six factors: 1) problem solving, 2) positive cognitive coping, 3) seeking social support, 4) self-blame, 5) wishful thinking and 6) avoidance.

Among 10 items on positive cognitive coping, the item 'Change feeling due to participation in sports' was originally included.

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However, because this study targets persons with physical disabilities, positive cognitive coping was evaluated by nine items except the above item.

This study was approved by the Ethics Committee on Human Experimentation of the Faculty of Human Science at Kanazawa University (Approval No. 2012-19).

Hypothesis

The score of the six coping factors of the physical disabilities group will be different from the without disabilities group. The correlation of the six coping factors will also differ between the two groups.

Statistical Analysis

Differences of mean ages by gender were tested by two-way analysis of variance (ANOVA).

Mean differences between the two groups for each factor were tested by ANOVA with an age-dependent covariate. Relationships among each factor in each group were tested by partial correlation coefficients, eliminating an effect of the age. The level of significance of this study was 0.05.

Results

Table 1 shows the basic statistics of six factors in both groups and their test results of ANOVA considering age-dependent covariates.

A significant difference was found only in positive cognitive coping.

Table 1. Analysis of covariance (ANOVA) of average points of six factors for both of physical disabilities group (PDG) and without disabilities group (WDG).

	PDG (n = 68)		WDG (n = 110)		F	p
	M	SD	M	SD		
Problem Solving	1.69	0.61	1.86	0.46	4.98	0.027
Positive Cognitive Coping	1.62	0.55	1.92	0.47	14.78	0.000*
Seeking Social Support	1.72	0.71	1.85	0.75	0.95	0.332
Self-Blame	1.32	0.78	1.58	0.80	3.18	0.076
Wishful Thinking	1.32	0.78	1.20	0.76	2.37	0.126
Avoidance	1.01	0.65	1.18	0.58	2.38	0.124

*: $p < 0.05$

To examine the relationship between each factor score of the persons with physical disabilities group and the persons without disabilities group, partial correlation coefficients considering age-dependent covariates were calculated.

Table 2 shows partial correlation coefficients among factors in each of the two groups.

In both groups, significant correlations (r = 0.29–0.59) were found among seeking social support, self-blame, wishful thinking and avoidance ($p < 0.05$). In addition, significant and moderate correlations (r = 0.55 and 0.71) were found between problem solving and positive cognitive coping, with r being greater in the disability group ($z = 1.71$; $p = 0.087$).

Moreover, in the disability group, significant correlations (r = 0.28–0.42) were found between problem solving and seeking social support/self-blame, and positive cognitive coping and the latter two factors.

Table 2. Partial correlation coefficient of factor scores for the physical disabilities group (PDG) and the without disabilities group (WDG).

PDG (n = 68)

	[r]	a	b	c	d	e
a	Problem Solving					
b	Positive Cognitive Coping	0.71*				
c	Seeking Social Support	0.42*	0.28*			
d	Self-Blame	0.40*	0.37*	0.29*		
e	Wishful Thinking	0.13	0.06	0.33*	0.34*	
f	Avoidance	0.24	0.21	0.46*	0.44*	0.56*

*: $p < 0.05$

WDG (n = 110)

	[r]	a	b	c	d	e
a	Problem Solving					
b	Positive Cognitive Coping	0.55*				
c	Seeking Social Support	0.16	0.15			
d	Self-Blame	0.18	-0.02	0.33*		
e	Wishful Thinking	-0.05	0.09	0.46*	0.55*	
f	Avoidance	0.18	0.16	0.42*	0.44*	0.59*

*: $p < 0.05$

Conclusions

In comparing between each mean factor score in the physical disability (PDG) and without disabilities groups (WDG), a significant difference was found only in positive cognitive coping; it was higher in the without disabilities group than in the physical disabilities group.

According to Nakano (2013), positive cognitive coping requires a way to calm the heart by changing one's perspective by being optimistic and working towards aspects of self-growth.

In addition, positive cognitive coping is also the mental effort to control one's feelings and assign stressful events with affirmative meaning.

Matsuura et al. (2012) reported that persons with congenital physical disabilities who use wheelchairs have higher mental stress; thus, mental effort during coping may be difficult for them compared to people without disabilities.

It is supposed that except for the positive cognitive coping method, persons with congenital physical disabilities who use wheelchairs can acquire and practice the coping strategies for stress. Therefore, we can infer no difference among the groups.

During correlations among six factors, significant correlations were found among the factors of seeking social support, self-blame, wishful thinking and avoidance in both groups.

Problem solving is the coping strategy of situational analysis for solving a problem towards an effort to change the stress situation, and positive cognitive coping is a strategy to calm the heart for problem solving.

Therefore, both problem solving and seeking social support are favourable factors; thus, a relation was thought to be found among the two factors (Nakano, 2013).

In both groups, the role of seeking social support may be related to self-blame, wishful thinking and avoidance because seeking social support is a behavioural effort for information, help, sympathy and seeking understanding from a third party (Nakano, 2013).

In addition, persons with disabilities seem to live in similar conditions to those without disabilities due to the Services and Supports for Persons with Disabilities Act (2006) and the advancement of barrier-free infrastructure.

Significant correlations were found only within the disabilities group between problem solving, seeking social support and self-blame, and between positive cognitive coping, seeking social support and self-blame.

Self-blame is the coping strategy of taking a stance of passive self-punishment, different from the coping strategies of positive cognitive coping and problem solving.

Therefore, relationships between self-blame and other factors are generally not found even among persons with physical disabilities, as in the case of persons without disabilities.

But, in the disabilities group, low and significant relations (0.37–0.40) were found.

Persons with congenital physical disabilities tend to neither affirm nor negate the following idea with respect to their own disability 'it is not a good thing, but there is no help for it' (Yasuoka and Hazama, 2004).

Also, the without disabilities and acquired disorder spinal cord injury group stated that persons having high happiness were believed to have low inferiority feeling, while persons with congenital physical disabilities and spina bifida having high happiness were believed to haven high inferiority feeling (Fujita and Sueda, 2010).

Hence, persons with disabilities are thought to assume a positive attitude, yet, on the other hand, take an intropunitive and passive stance.

This study performed statistical analysis in consideration of an effect of age. It will be necessary to examine this in further detail based on a larger sample.

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