

Life Skills Training Effects on Adjustment and Mental Health in Physical-Motor Disabilities

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ABSTRACT

Life Skills Training in Physical-Motor Disabled (PMD) have been rarely scrutinized in Iranian culture, which makes us to assess that comprehensively. We aimed to examine effectiveness of a life skills training (LST) on adjustment and mental health of physical-motor disabilities (PMD) people. Eleven PMD people attended 10 sessions of the LST, and were followed up for 2 months. The pre-test, post-test and follow-up adjustment and mental health of the groups were measured using Bell's adjustment inventory, a general health questionnaire, and compared with PMD control. Significant differences were found between the experimental and control groups regarding the post-test and follow-up overall adjustment and mental health functions. There were significant increase in the post-test scores of home adjustment, follow-up scores of both health and social adjustment, and significant reductions in both post-test and follow-up signs of physical symptoms, anxiety, and insomnia, post-test signs of depression and social dysfunction and failure in the experimental group. The LST improves adjustment and mental health measures of PMD people. However, further confirmatory studies are required.

Keywords: *Adjustment, Life Skills Training, Mental Health, Physical-Motor Disability*

Disability is critical condition due to any physical, mental, developmental impairments that could be present from birth, or may happen during every person's lifetime, resulting in psychological and social situations different from the past, or distinct from the other (Ravesloot et al., 2011).

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Received: September 19, 2018; Revision Received: January 26, 2019; Accepted: January 31, 2019

Physical disability not only affects physical health, but it has a great impact on social-psychological adjustment and mental health of the people, as well (Wilson, Washington, Engel, Ciol, & Jensen, 2006). People with disabilities often remain unemployed, socially-isolated, less- educated, poor, and economically disadvantaged, and face educational barriers and multiple physical, legal, economic, psychological and social orientations in many societies (Nosek, Hughes, Taylor, & Taylor, 2006; Turner & Turner, 2004; van Campen & Iedema, 2007). For example, negative attitudes and psychosocial barriers affect mental health of disabled people, leading to their lower self-esteem and confidence in comparison with non-disabled people (Seo, Ahn, Byun, & Kim, 2007). Additionally, people with a physical disability compared with the general population have less social connections and higher tendency for social isolation (Reichard, Stolzle, & Fox, 2011).

Despite restrictions associated with disabilities, the disabled people have special potentials and capabilities which can flourish in proper context (Elliott, Uswatte, Lewis, & Palmatier, 2000); like other people, disabled people need to learn some skills in order to compatibly cope with stressful situations and struggles of life. Life skills training programs have been suggested as the most effective approaches that help people to have a better and healthier life (Kim, Doh, Hong, & Choi, 2011; Wenzel, Weichold, & Silbereisen, 2009). Also, several studies have shown that life skills training programs have positive influences on life and social skills of people with certain disabilities (Di Rezze, Wright, Curran, Campbell, & Macarthur, 2008; McDonald et al., 2008; Soresi & Nota, 2000; Tisdelle & St. Lawrence, 1986; Wheeler, Lane, & McMahon, 2007).

However, to the best of our knowledge, the impact of life skills training in physical- motor disabled (PMD) have been rarely investigated. Therefore, the purpose of present study was to examine effectiveness of life skills training on adjustment and mental health of PMD people.

METHODOLOGY

Sample

Due to the impossibility of controlling all the variables affecting the dependent variable, the present study was performed in a semi-experimental research method, in a pretest-posttest design with a control group. The statistical society consisted of 22 PMD people. The inclusion criteria included; being 20-35 years old and single, having minimum secondary education level, and no history of physical and mental disorders. The participants were randomly divided into experimental (n=11) and control (n=11) groups.

Instruments

Prior to the training interventions, all subjects completed a personal information form, and two questionnaires of adjustment and mental health including; Bell's Adjustment Inventory (BAI), and a General Health Questionnaire (GHQ).

The personal information form included; sex, age, marital status and educational level of the participants, history of mental illness and disability, type of disability, and also age and job status of the participants' parents.

The BAI, designed by Bell, is comprised of 160 three-choice (Yes, No, and/or I do not know) questions to assess five different adjustment scales including; home, health, social, emotional, and career-educational adjustments (Dana & Baker, 1961). The Persian version of the BAI that had been shrunk to 80 Bell's adjustment questions was used in the current study. Only yes or no answers were assigned scores of either Zero or One. Then for each individual, the

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overall adjustment score was calculated as sum of all scores, and also the score for each adjustment scale was calculated as only sum of the scores obtained for that scale. The Persian BAI had been previously validated according to the WHO guideline of reverse translation (Amani, Etemadi, Fatehi Zadeh, & Bahrami, 2012), and its reliability had been assessed using Cronbach's alpha statistic, allocating the Cronbach's coefficient as 0.89.

The 28-item GHQ was proposed by Goldberg and Hillier in 1979, comprised of 28 four-choice questions in 4 subscales including; anxiety and insomnia, somatic symptoms, severe depression, and social dysfunction (Goldberg & Hillier, 1979). The used scoring model for the GHQ was the Likert four-point scale with scores of 0, 1, 2 and 3. Thus, the overall score for each individual ranged from zero to 80, and for each subscale score was from zero to 21.

Training

The experimental group attended 10 sessions of life skills training (a 90-minute session/week), based on the World Health Organization (WHO), as follows: 3 sessions of self-awareness skills, 3 sessions of effective communication skills, 2 sessions of interpersonal skills, and 2 sessions of problem solving skills. The training protocol is summarized in Table 1. The control group received no intervention during this period. Immediately following the training sessions, the adjustment and mental health of both experimental and control groups were re-assessed, and the groups were followed up for an additional 2 months.

Procedure

All participants signed an informed consent. The identity and personal information of the participants was not disclosed in any stage of the study. The study design and tools were approved by and ethics committee located at the Research Deputy of Roudehen branch of Islamic Azad University.

Statistical Analysis

To examine all data, SPSS version 16 (IBM SPSS Statistics, Chicago, IL, USA) was used. First, the mean and standard deviation (SD) of pre-test, post-test and follow-up were calculated for overall adjustment and mental health. Then, homogeneity of variances for pre-test score was tested by Levene's test, followed by multivariate analysis of covariance (MANCOVA) to compare mean scores of post-test and follow-up between the groups. Afterwards, equality of variances was validated by Mauchly's sphericity test. Finally, repeated measurements and the paired comparisons of the study stages within each group were made.

Table 1: The life skills training protocol used in the study

Session	Skill	Program
1	Self-awareness	Familiarizing of the group members and their goals; encouraging to participate regularly and actively in the training sessions; defining the words "self" and "awareness"; describing the importance and role of self-awareness skills; and finally making a weekly assignment for participant to describe themselves as there were, and as they would like to be, using three adjectives or short phrases.
2	Self-awareness	Defining the self-awareness skills; introducing and describing elements of self-awareness including, correct and emotional self-assessment and self-confidence, self-esteem and substance abuse, self-esteem and resiliency, and characteristics of resilient people.

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Session	Skill	Program
3	Self-awareness	Components and benefits of self-awareness; sympathy and its main methods, and obstacles; identification and control of emotions; self-concept and its importance, and the way it can be modified.
4	Effective communication	Defining the communication and its importance; describing essential, verbal and non-verbal elements of communication.
5	Effective communication	Active listening and its characteristics, goals, and effective methods
6	Effective communication	Recommendations for achieving an efficient non-verbal communication; barriers to effective communications; healthy and unhealthy styles of aggressive, passive, and assertive communications.
7	Interpersonal	Defining the interpersonal skill and its importance; self-knowledge, other-knowledge, and equality of traits; describing 4 areas of expertise to establish effective interpersonal relationships.
8	Interpersonal	Building trust in interpersonal relationships; communicating clearly and free of ambiguity; supporting each other; special rules and styles for resolution of conflicts; three suitable alternatives instead of getting angry.
9	Problem solving	Defining problem solving; problem-focused and emotion-focused coping styles
10	Problem solving	Adaptive and maladaptive emotion-focused coping

RESULTS

Table 2: Demographic and clinical features the participants

Variable		Experimental	Control
Gender	Female	7 (63.6 %)	5 (45.5 %)
	Male	4 (36.4%)	6 (54.5%)
Education	Elementary	1 (9.1%)	2 (18.2%)
	High School	8 (72.7%)	8 (72.7%)
	University	2 (18.2%)	1 (9.1%)
Participant's occupation	Jobless	11 (100%)	8 (72.7%)
	Jobholder	0 (0%)	1 (9.1%)
	Student	0 (0%)	2 (18.2%)
Mother's occupation	Employee	1 (9.1%)	1 (9.1%)
	Housewife	10 (90.9%)	10 (90.9%)
Father's occupation	Employee	1 (9.1%)	1 (9.1%)
	Self-employed	6 (36.4%)	7 (45.5%)
	Retired	4 (27.3%)	3 (27.3%)
Disability From	Birth	5 (45.5%)	5 (45.5%)

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Variable	Experimental	Control
1st year of life	1 (9.1%)	0 (0%)
2nd year of life	1 (9.1%)	1 (9.1%)
3rd year of life	1 (9.1%)	0 (0%)
5th year of life	1 (9.1%)	0 (0%)
8th year of life	1 (9.1%)	0 (0%)
10th year of life	1 (9.1%)	0 (0%)
14th year of life	0 (0%)	1 (9.1%)
20th year of life	0 (0%)	2 (18.2%)
25th year of life	0 (0%)	1 (9.1%)
32th year of life	0 (0%)	1 (9.1%)
Type of Disability		
Cerebral palsy (CP)	7 (63.6%)	2 (18.2%)
Neuropathy/myopathy	2 (18.2%)	3 (27.3%)
Spinal cord injury (SCI)	1 (9.1%)	2 (18.2%)
Poliomyelitis	1 (9.1%)	0 (0%)
Multiple sclerosis (MS)	0 (0%)	2 (18.2%)
Brain injury	0 (0%)	1 (9.1%)
Arthrogyrosis	0 (0%)	1 (9.1%)

The experimental group included 11 individuals with PMD (age range 22-35 years; mean age, 29.00±3.69 years), and the control group also included 11 individuals with PMD (age range, 20-35 years; mean age, 25.64±5.32 years). Other demographic and clinical information of the participants are presented in Table 2.

Table 3: Differences between mean scores of pre-test, post-test and follow-up adjustment and mental health of the experimental and control groups (presented as mean±SD)

Variable	Experimental	Control	F	P value	
Overall adjustment	Pre-test	33.00±12.75	31.55±11.09	---	---
	Post-test	25.91±10.46	31.45±12.57	1.119	0.303
	Follow-up	21.64±7.80	27.55±10.51	2.317	0.144
Mental Health	Pre-test	24.64±7.70	25.27±7.23	---	---
	Post-test	16.36±6.56	26.18±8.65	3.164	0.091
	Follow-up	15.45±5.70	22.91±6.77	0.280	0.602

The result of Levene's test showed no significant difference ($p > 0.05$) in pre-test, post-test and follow-up score variances of either overall adjustment or mental health between the experimental and control groups (Table 3).

Table4: *The results of multivariate analysis of covariance on the mean of the overall adjustment and mental health post-test and follow-up scores in both experimental and control groups, with control of their pretest mean scores*

Variable		Source of variation	Mean square	F	P value	Etta Coefficient
Overall adjustment	Post-test	Pre-test	1787.032	38.210	0.0001	0.668
		Group	245.707	5.245	<u>0.033</u>	0.217
	Follow-up	Pre-test	982.199	25.527	0.0001	0.573
		Group	250.550	6.512	<u>0.019</u>	0.255
Mental health	Post-test	Pre-test	238.769	4.829	0.041	0.203
		Group	497.856	10.069	<u>0.005</u>	0.346
	Follow-up	Pre-test	150.131	4.503	0.047	0.192
		Group	286.214	8.584	<u>0.009</u>	0.311

The results of MANCOVA on the mean of the overall adjustment and mental health post-test and follow-up scores in both experimental and control groups, with control of their pretest mean scores are given in Table 4. As seen, there were significant differences between the experimental and control groups regarding the post-test and follow-up overall adjustment, and mental health functions ($p < .05$, and $p < .01$, respectively). In other words, considering the Etta co-efficient, it seems that the life skill training have increased both adjustment and mental health of the participant with PMD.

Table5: *The results of the repeated measurements of adjustment and mental health inventory, and also the paired comparisons of the study stages within each group*

Variable		Source of variation	Mean square	f	P value	Etta Coefficient	
Overall adjustment	Experimental	Pre-test vs. Post-test	553.091	14.832	<u>0.003</u>	0.597	
		Pre-test vs. follow-up	672.364	14.805	<u>0.003</u>	0.97	
		Post-test vs. follow-up	200.818	3.759	0.081	0.273	
	Control	Pre-test vs. Post-test	0.091	0.001	0.971	0.0001	
		Pre-test vs. follow-up	172.023	3.985	0.074	0.285	
		Post-test vs. follow-up	168.091	3.190	0.104	0.242	
	Mental health	Experimental	Pre-test vs. Post-test	752.818	34.191	<u>0.0001</u>	0.77
			Pre-test vs. follow-up	280.023	10.972	<u>0.008</u>	0.52
			Post-test vs. follow-up	9.091	0.523	0.483	0.51
Control		Pre-test vs. Post-test	9.091	0.087	0.774	0.009	
		Pre-test vs. follow-up	87.364	2.099	0.178	0.174	
		Post-test vs. follow-up	117.818	1.631	0.230	0.14	

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In addition, as given in Table 5, repeated-measures analysis of adjustment and mental health inventory, and the paired comparisons of the study stages within each group revealed that the pre-test versus post-test mean scores of either adjustment or mental health were significantly different in the experimental group ($p < .01$, and $p < .001$, respectively), while no significant difference was seen between pre-test and post-test mean scores of neither adjustment nor mental health in the control group ($p > 0.05$).

Moreover, there were significant differences between pre-test and follow-up mean scores of either adjustment or mental health inventory in the experimental group ($P < 0.01$), but not the control group ($p > .05$), which indicates that the effects of the life skills training was stable even after lapse of 2 months.

Furthermore, there were significant increases in the post-test mean scores of home adjustment ($p = .043$; Eta co-efficient = .198), and also in the follow-up mean scores of both health ($p = .025$; Eta co-efficient = .238), and social adjustment ($p = .001$; Eta co-efficient = .424) in the experimental group compared to the control group. Besides, there were significant reductions in both post-test and follow-up signs of physical symptoms ($P = 0.049$; Eta co-efficient = .189, and $p = .024$; Eta co-efficient = .241, respectively), and anxiety and insomnia ($p = .020$; Eta co-efficient = .253, and $p = .030$; Eta co-efficient = .226, respectively), and also in post-test signs of depression ($P = .006$; Eta co-efficient = .332), and social dysfunction and failure ($p = .020$; Eta co-efficient = .25) in the experimental group compared to the control group.

DISCUSSION

The results of the present study showed that the life skill training increased both adjustment and mental health of the PMD people, and interestingly the effects of the training remained stable during the two months of follow-up. Our findings are in line with those of previous studies (Ahmadian & Fata, 2009; Braden et al., 2010; Bramston & Spence, 1985; Dahlberg et al., 2007; Tunde, 2010). For instances, Bramston and Spence found that a behavioral social-skills training significantly increased basic social-skill performance of moderately intellectually-handicapped people (Bramston & Spence, 1985). In addition, Braden and colleagues demonstrated that a group interactive structured treatment (GIST) improved subjective social communication skills both at post-treatment and at follow-up measures in people with traumatic brain injury (Braden et al., 2010). Moreover, Tunde showed that counselling intervention programs enhanced psychological adjustment among students with disability (Tunde, 2010).

Our findings in agreement with those of Bramston and Spence (Bramston & Spence, 1985). Braden and colleagues (Braden et al., 2010), and Tunde (Tunde, 2010) support the notion that training of certain life skills such as correct decision-making and problem solving, communication and social skills, and coping with difficult situations increases self-efficacy, and thereby provides higher social adjustment among people with disabilities.

Life skills include the ability to set realistic goals, solve problems, make proper decisions and evaluate their outcomes, and develop good personal and interpersonal skills (Kingsnorth, Healy, & Macarthur, 2007; Tisdelle & St. Lawrence, 1986; Ziviani, Darlington, Feeney, & Head, 2011). Achieving proper social skills cause a person to be accepted in the group, which in turn plays an important role in the early stages of social development, and finally providing social adjustment (Kingsnorth et al., 2007). What's more, a healthy person is the one who receives more social support from their environment and surroundings due to their appropriate behaviors and a life-skill program can be considered as an effective approach for

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comprehensive behavior change towards developing the skills necessary for life (Sobhi-Gharamaleki & Rajabi, 2010).

In people with disabilities, the skills necessary for everyday life are not grown at a desirable level due to physical constraints, their negative attitudes, less benefit from classical education, limited social relationships, and so forth (King et al., 1997; Turner & Turner, 2004; van Campen & Iedema, 2007). Similar to non-disabled persons, the PMD people require special skills to succeed in various aspects of life. Thus, considering our findings of improvement in various adjustment criteria, the life skills training might play an important and decisive role in increasing the ability of PMD people to deal with difficult situations during their lives.

In addition to the adjustment, we found that following the life skills training protocol, the mental health of PMD people was increased, manifesting as declines in physical symptoms, depression, anxiety, insomnia, social dysfunction and failure signs.

Mental health refers to a level of psychological, emotional, and social well-being at which a person facing deep troubles has the capability to compromise with themselves and other people, is not paralyzed by inevitable internal conflicts and is not set aside by society, and in other words, is able to maintain their balance during difficult conditions of life (Sobhi-Gharamaleki & Rajabi, 2010). A mentally healthy person does not deny the reality and does not disregard their disability by denying, but rather faces the situations realistically, accepts responsibility of life and their behavior, behaving in a responsible manner. In addition to the problems that people with disabilities often experience in their interaction with society and physical movements (Kuvalekar et al., 2015), disabilities can threaten the physical and mental health of them (Mace et al., 2010).

Thus, in line with our findings in the present study, the life skills training might play an important role in determining the ability of PMD people to confront various life situations, and also in reducing adverse effects of poor socio- economic and educational supports.

In conclusion, it seems that the life skills training improves adjustment and mental health measures of PMD people, and therefore, it is suggested to be applied for students and other people with PMD in schools, social welfare centers, and related organizations. However, further confirmatory studies are required.

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Acknowledgements

The authors profoundly appreciate all the people who have successfully contributed in ensuring this paper is in place. Their contributions are acknowledged however their names cannot be able to be mentioned.

Conflict of Interest

The authors clearly declared this paper to bear no conflict of interests

How to cite this article: Khaksari, M, Ali, F, Seifi, M, Raheleh, A, Farah, L, & Farzad, A (2019). Life Skills Training Effects on Adjustment and Mental Health in Physical-Motor Disabilities. *International Journal of Indian Psychology*, 7(1), 5-14. DIP:18.01.002/20190701, DOI:10.25215/0701.002