



## Comparing Life Quality Strategies and Emotion Regulation in People with Congenital and Non-Congenital Motor Disability

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### ABSTRACT

**Objective:** The purpose of the present study was to compare emotion regulation strategies and life quality of people with congenital and non-congenital motor disabilities. **Method:** This study is a casual-comparative study and its population consisted of all people with congenital and non-congenital motor disability in Kahrizak Charity Foundation in Tehran in 2016. To conduct the study, available sampling method was used, and congenital and non-congenital disabled people were selected (200 people). To collect data, Cognitive Emotion Regulation Scale by Granovsky and life quality questionnaire were used. Research hypotheses were tested using multivariate analysis of variance. **Results:** The findings of this study showed that there is a significant difference between emotion regulation components in people with congenital and non-congenital disabilities ( $p < 0.05$ ). Also, according to the findings, a significant difference was observed between life quality dimensions (physical and mental health) in people with congenital and non-congenital disabilities ( $p < 0.05$ ). **Conclusion:** According to the significant difference between two groups of subjects, necessary measures regarding consultation and psychotherapy should be taken into consideration to let people benefit from desirable mental health level.

**Keywords:** Emotion regulation, Life quality, Congenital motor disability, Non-congenital motor disability

### INTRODUCTION

All humans experience emotions in their life and this is completely natural that they show different forms of emotions against various situations. However, severe negative emotions are abnormal and are not constructive and bring numerous destructive consequences [1]. By controlling the emotions, it means that the person should learn how to identify his or her emotions in different conditions and control them. These skills have different effects on person's life, interpersonal interactions, mental health, and physical health [2]. Emotion regulation points to person's ability to understand emotions and regulate emotional experience and tools [1,2]. Emotion regulation includes processes that help people to create necessary emotions in themselves, control them, and use them in appropriate forms [3]. Emotion regulation has always been taken into consideration by human, because in each action, emotion regulation is involved in life quality and influences it. Life quality is a comprehensive concept that is influenced by physical health, psychological states, independence level, and social relations and affects person's conceptions. Increased life quality decreases psychological damages, distress, dissatisfaction, delinquency, and social anomalies [4]. From 1960s, the application of the term "life quality" became prevalent in rehabilitation context and recently, it has been used in approaches related to patients' health in rehabilitation and improved life quality in disabled people and is proposed as a rehabilitation goal [5]. In a study by Oliver, et al., it was indicated that factors such as demographic features, social relations, and social support influence life quality in healthy and disabled people [4]. Life quality of disabled people is related to health level and mental well-being, functional well-being, effective social relationship, and severity of physical disability [6]. Lack of emotion regulation creates cardiovascular complications and mental and physical diseases, and wrong understanding of the self, others and the environment and influences life quality. Also, disability has destructive effects on life quality of disabled people, particularly on marriage, knowledge, occupation, and

emotional states and influences all aspects of person's life [4]. Studies show that people with motor disability, due to their specific conditions, need social support and this can influence their life conditions and quality [6].

Disability creates disorder in the relationship between the person and the environment. This disorder creates problems for emotion regulation and this can be effective in clinical context and applied studies in this regard can prevent most of psychological disorders in people with disability. In this present study, the question is that are emotion regulation strategies different in both group of people with congenital and non-congenital disability and people who became disabled in later stages of life?

## METHOD

### Population, Sample and Methodology

The present study is among descriptive and casual-comparative studies. The population of the present study includes all people who are kept in Kahrizak Charity Foundation as people with physical disability or refer to this institute to receive rehabilitation services. According to the received information, about 500 people are considered as the social group where 200 people (100 patients with congenital disability and 100 patients with non-congenital disability) were selected by the available sampling method as the sample of the study. Questionnaires were introduced by the researcher and distributed among subjects. Data were analysed using SPSS 23 and statistical methods such as multivariate analysis of variance and one-way covariance analysis.

### Instruments

#### a) Cognitive Emotion Regulation Scale by Granovsky

This scale was designed by Granovsky and colleagues. This scale is a multi-dimension scale and self-report instrument that includes 36 articles with similar form for adults and children. This scale [7] evaluates blaming the self- blaming others, rumination, disaster, admission, refocus on planning, positive refocus, and positive re-evaluation. This scale includes 36 questions each with 5 options (always to never) that each 4 questions evaluate one factor and in sum, 9 factors are evaluated. The Persian form of this scale was validated by Samani and Jokar. Cronbach's alpha coefficient of this scale was reported between 0.71 and 0.81. To investigate convergent and divergent validity of this scale in Iran, depression, anxiety, and stress scales were evaluated that include 21 questions. In this scale, each question evaluates one emotional disorder. In order to investigate psychometric capability of the scale, first, this scale was questioned based on factor analysis (to investigate construct validity). Before factor analysis, positive index of KMO and Bartlett index were investigated. After assuring two indexes of KMO and Bartlett coefficient, the main components of questions were investigated using factor analysis [7]. In the present study, Cronbach's alpha was reported for reliability between 0.8 and 0.9.

#### b) Life Quality Scale

Numerous scales are designed to assess life quality and the most popular one is life quality scale including 36 questions. This self-report scale investigates life quality and health and was designed by Sherbourne and Ware and assess physical and mental components scores by PCS and MCS, respectively. In this scale, scores in each domain vary between 0 and 100. Low score indicates low life quality and high score means higher life quality. Validity and reliability of this scale were confirmed in Iranian society and its internal consistency coefficients were reported between 0.70 and 0.85 and its test-retest coefficients were reported between 0.43 and 0.79. Also, this scale can make distinction between healthy and unhealthy people regarding all indexes [8]. In the present study, Cronbach's coefficients were reported between 0.85 and 0.89.

## RESULTS

It should be noted that among sample subjects, 82 subjects were male, and 118 subjects were female the average age of 32.

Table 1 Descriptive indexes of emotion regulation components in both groups

Variables		Mean	SD	Skewness	Kurtosis
Blaming the self	Congenital disability	8.75	4.52	0.838	-0.15
	Non-congenital disability	10.18	4.92	0.311	1.02
Blaming others	Congenital disability	8.34	3.9	0.513	-0.886
	Non-congenital disability	8.84	4.54	0.73	0.35
Rumination	Congenital disability	11.71	3.09	-0.017	-0.715
	Non-congenital disability	12.79	3.35	0.178	-1.204
Disaster	Congenital disability	10.86	2.36	0.589	-0.513
	Non-congenital disability	11.66	2.57	0.288	-1.029
Admission	Congenital disability	14.46	3.19	-0.676	-0.303
	Non-congenital disability	15.16	2.6	1.103	1.645
Planning refocus	Congenital disability	16.24	2.81	-0.386	-1.032
	Non-congenital disability	16.52	2.73	0.752	0.239
Positive refocus	Congenital disability	15.37	2.7	-0.053	-0.501
	Non-congenital disability	15.43	3.29	-0.513	0.315
Positive re-evaluation	Congenital disability	15.94	3.08	-0.414	-0.794
	Non-congenital disability	16.12	3.98	-0.599	0.372
Commentary	Congenital disability	14.38	3.02	-0.27	-0.097
	Non-congenital disability	15.28	3.99	0.259	0.883

As can be seen in Table 1, indexes related to skewness and kurtosis are not beyond  $\pm 2$  in both groups. Therefore, it can be concluded that univariate distribution of these variables is normal in both groups.

Then, Table 2 shows the results of Levene's test in evaluating homogeneity of error variances in each of emotion cognitive regulation components in both groups.

Table 2 Levene's test in evaluating error variances homogeneities

Variables	F	df1	df2	Sig
Blaming the self	1.668	1	198	0.198
Blaming others	1.599	1	198	0.208
Rumination	1.687	1	198	0.196
Disaster	0.947	1	198	0.332
Admission	0.254	1	198	0.769
Planning refocus	1.106	1	198	0.294
Positive refocus	0.244	1	198	0.816
Commentary	1.152	1	198	0.284
Positive re-evaluation	3.772	1	198	0.054

As can be seen in Table 2, the use of Levene's test showed that error variances did not show significant different in both research groups. Therefore, it can be said that homogeneity assumption of error variances of emotion cognitive regulation components exists in both groups.

### Hypothesis 1: There is a significant difference between emotion cognitive regulation components in people with congenital and non-congenital disabilities

At first, the homogeneity assumption of variance-covariance was investigated by Box's M. The results showed that homogeneity of variance-covariance matrices of dependent variables in data related to two groups does not exist ( $F=2.994$ ,  $P>0.01$ , Box's  $M=141.482$ ). Despite lack of homogeneity assumption of variance-covariance, it is expected that this problem will not discredit the results, because it is believed that if sample sizes are equal in groups of interest, statistical methods of analysis of variance and covariance will be resistant if homogeneity is not assumed. Also, the result of Bartlett test of sphericity with the degree of freedom of 44 at the significance level of 0.001 was obtained as 789.737. This shows that an acceptable level of correlation exists between dependent variables. Therefore, multivariate analysis of variance is a suitable method to compare emotion cognitive components in both groups of people with congenital and non-congenital disabilities. Multivariate analysis of variance was performed and among

four statistics (Pillai's Trace, Wilk's Lambda, Hotelling's Trace, and Roy's Largest Root), Wilk's Lambda was used to calculate F. The results of multivariate analysis of covariance showed that F-value is significant at the level of 0.036. For this purpose, one-way analysis of variance was performed to determine which component of emotion cognitive regulation is statistically different in two research groups. Table 3 shows results of one-way analysis of covariance in both groups of the study.

**Table 3 One-way analysis of covariance compared with emotion cognitive regulation components in both research groups**

Variables	Mean of squares	Mean of error squares	F	Significance level	$\eta^2$
Blaming the self	102.245	22.351	4.575	0.034	0.023
Blaming others	12.5	17.969	0.696	0.405	0.004
Rumination	58.32	10.41	5.602	0.019	0.028
Disaster	32	6.103	5.243	0.023	0.026
Admission	24.5	8.469	2.884	0.091	0.014
Planning refocus	3.92	7.713	0.508	0.477	0.003
Positive refocus	0.18	9.1	0.02	0.888	0.00
Positive reevaluation	1.62	12.668	0.128	0.721	0.001
Commentary	40.5	12.564	3.223	0.074	0.016

According to the results of Table 3, F scores related to blaming the self, disaster, and emotion cognitive regulation are significant at the level of 0.05. Also, Eta square related to each variable means that how much of the dependent variables will be explained by the group variable. For example, Eta square of blaming the self is 0.023 and this means that almost 2.3% of variance is explained by being inserted into the group. Then, since the group variable in the present study is constituted by two floors, to evaluate the direction of differences, Bonferroni post hoc test was used. The results showed that non-congenital disabled people obtained higher averages in all three dimensions compared with congenital disabled people. Therefore, it can be concluded that people with non-congenital disability obtain higher averages in rumination and disaster.

**Table 4 Descriptive indexes of life quality components in both groups**

Variables		Mean	SD	Skewness	Kurtosis
Physical health	Congenital disability	49.94	17.4	-0.151	-0.22
	Non-congenital disability	46.6	20.95	0.045	-0.93
Mental health	Congenital disability	35.93	20.32	0.305	-0.529
	Non-congenital disability	30.06	15.86	-0.164	0.075

Table 4 shows indexes related to skewness and kurtosis of life quality dimensions (mental and physical health). As can be observed, indexes related to skewness and kurtosis are not beyond the domain of  $\pm 2$ . Therefore, it can be concluded that univariate distributions are normal in both groups.

**Table 5 Leven test in evaluating the homogeneity of error variances**

Variables	F	df1	df2	Sig
Physical health	2.851	1	198	0.102
Mental health	1.501	1	198	0.183

As can be seen in Table 5, Leven test showed that error variances did not show any significant difference in research groups. Therefore, it can be said that the assumption of error variances homogeneity of life quality exists in both groups.

### **Hypothesis 2: There is a significant difference between life quality dimensions of people with congenital and non-congenital disability**

To test the second hypothesis, multivariate analysis of variance was used. Homogeneity of covariance assumption by Box's M showed that observed homogeneity of variance-covariance assumption does not exist in data related to the both groups. Also, the results of Bartlett's test of sphericity with the degree of freedom of 2 was obtained at the

significance level of 0.015 as 8.390. This shows that an acceptable level of correlation exists between dependent variables. Multivariate analysis of variance was performed, and Wilk's Lambda statistics were calculated to estimate F-value. The results of multivariate analysis of variance showed that F-value is significant at the level of 0.020. For this purpose, one-way analysis of variance was performed to determine which dimension of life quality is significantly different. Table 6 shows that results of one-way analysis of variance compared with life quality dimensions in both research groups.

**Table 6 One-way analysis of covariance compared with life quality dimensions in both groups**

Variables	Mean of squares	Mean of error squares	F	Significance level	$2\eta$
Physical health	555.694	372.649	1.419	0.223	0.007
Mental health	1719.676	332.352	5.174	0.024	0.025

According to the results of Table 6, F scores related to the mental health of life quality are significant at the level of 0.05. Then, the use of Bonferroni post-hoc test showed that people with non-congenital disability obtained lower means. Therefore, in testing the second hypothesis, it was concluded that people with non-congenital disability obtained lower life quality in the mental health dimension.

## DISCUSSION

This study compared emotion regulation and life quality in people with congenital and non-congenital disabilities. Disability does not know time and place and has existed in different periods of history. Human behaviour is function of his or her existence and influences both physical and mental aspects. Therefore, study on disabled people and their problems and considering their mental health and life quality for better planning in future are necessary.

The first research hypotheses investigated the significant difference between emotion cognitive regulation components including blaming the self, blaming others, rumination, disaster, admission, planning refocus, positive refocus, positive re-evaluation, and commentary among people with congenital and non-congenital disability and the results showed that people with non-congenital disability have higher means in blaming the self, rumination, and disaster and this difference is significant. In explaining the findings of the present study, it can be concluded that people with congenital disability have got along with their physical condition. These people suffer from more mental damages in other areas. According to Beck, negative beliefs during childhood and adolescence are formed based on experiences such as the death of parents and critiques by parents and teachers including over-generalization, selective abstraction, self-taught, and self-consciousness [9]. Also, researchers state that primary inconsistent schemas are the sources of anxiety and depression that stem from negative events in childhood and the was fundamental emotional needs are satisfied (safe attachment, self-regulation, freedom is expressing the needs and emotions, spontaneity and fun, realistic constraints, and continence) and disability as a negative events influences satisfaction of emotional needs and can be an effective factor in the formation of inconsistent schemas that is beyond this study. People with congenital disability do not consider themselves guilty. Leahy believes that emotional disorders stem form person's evaluation and interpretation of feelings and implemented strategies to cope with these emotions. Emotional schemas are plans, methods, and strategies used by a person in response to a certain emotion [3]. According to Beck and Leahy, unpleasant events influence the way people evaluate events. Healthy people who have got disability due to accident and disease have experienced blaming the self, rumination, and disaster [3].

In investigating the second hypothesis and according to the results, there is a significant difference between life quality dimensions of people with congenital and non-congenital disability and it was concluded that people with non-congenital disability obtain lower mean in mental health dimension of life quality. In explaining the findings of the present study about life quality of disabled people, it was concluded that people with non-congenital disability are weaker regarding life quality level. According to France, family, economic, social, and mental, health, and disease conditions influence life quality. The first effect of the disease is on personal performance and mental effects followed by general health and social performance [10]. Indeed, the relationship with social groups such as family, relatives, and their supportive role influence life quality of people with disability. The expectation that the person has from the future and life dynamics and experiences including moral beliefs, economic status, and social skills patterns influence life satisfaction. Most people with disability experience chronic pains and in 20 to 30% of them, significant signs of depression can be observed. Also, spinal cord injury is related to decreased presence of children in schools. These

children go to school less than others and did not show significant progress in school. Adults who suffer from this problem are faced by similar barriers against social and economic participations [8].

### CONCLUSION

In the past, disability is known as a personal characteristics and different functions led to the isolation and certain labels. However, in 1960s, this perspective was criticized and emphasized the role of environmental factors in disability process. According to the studies by World Health Organization (WHO) and theories in reports about disability, living environment has the greatest effect on experience and prevalence of disability. The out of reach environment creates disability due to deprivations for actors. Health will be influenced by environmental factors such as housing, nutrition, and poverty and these factors are the main cause for low health level and disability. According to the theoretical framework proposed by WHO, performance of a person with disability is dependent on the complex relationship with individual and contextual factors. These factors include age, race, education, financial status, and nutrition [11,12].

### DECLARATION

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### REFERENCES

- [1] Barrett, Lisa Feldman, et al. "Knowing what you're feeling and knowing what to do about it: Mapping the relation between emotion differentiation and emotion regulation." *Cognition & Emotion* Vol. 15, No. 6, 2001, pp. 713-24.
- [2] Gross, James J. "Emotion regulation in adulthood: Timing is everything." *Current Directions in Psychological Science* Vol. 10, No. 6, 2001, pp. 214-19.
- [3] Leahy, Robert L. "A model of emotional schemas." *Cognitive and Behavioral Practice* Vol. 9, No. 3, 2002, pp. 177-190.
- [4] Naderi A, et al. "Quality of Life of the Spouses of War Related Amputees of Hamedan City, Iran." *Iranian Journal of War & Public Health* Vol. 8, No. 3, 2016, pp. 157-63.
- [5] Bakhtiyari, M., et al. "Quality of life among Disabled and Non-Disabled Individuals A Comparative Study." *Iranian Journal of Epidemiology* Vol. 8, No. 2, 2012, pp. 65-72.
- [6] Boland, Máirín C., Leslie Daly, and Anthony Staines. "Self-rated health and quality of life in adults attending regional disability services in Ireland." *Disability and Health Journal* Vol. 2, No. 2, 2009, pp. 95-103.
- [7] Tahmasebian H, Khazaei H, Arefi M, Saeidipou M, Hoseini SA. "Normalization of emotion control scale." *Journal of Kermanshah University of Medical Sciences* Vol. 18, 2014, pp. 349-54.
- [8] Sadeghi, Fassaeei Soheila, and Nia Mohammad Ali Fatemi. "Disability, The Hidden Part of Society: A Sociological Study on the Status of Disability in Iran and the World." 2015, pp. 157-192.
- [9] Sadollahi, Ali, et al. "Realtion between the voice disorder and the quality of life in patients with multiple sclerosis." *Koo-mesh* 2016, pp. 302-307.
- [10] Sobhani-Rad, D., et al. "An Investigation of the Quality of Life Scale Related to Voice Disorder in Adult Patients with Vocal Cord Paralysis." *Journal of Paramedical Sciences & Rehabilitation* Vol. 5, No. 2, 2016, pp. 76-81.
- [11] Mehri Nejad S.A., and Ramezan Saatchi L. "Impact of Mindfulness-Based Cognitive Therapy on Depression, Anger and Emotion Regulation of Veterans' Spouses." *Iranian Journal of War & Public Health* Vol. 8, 2016, pp. 141-48.
- [12] Bond, John. *Quality of Life and Older People*. McGraw-Hill Education (UK), 2004.