

Intermediary Role of Motivation and Social Support for Male Athletes with Physical Disabilities

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Abstract: To understand the factors that affect sports in physical disabilities, it is prominent to conduct studies, especially on people who are engaged in sports at certain levels. This research was a cross-sectional study aiming at determining motivation and perceived social support on male athletes with physical disabilities. A total of 666 male athletes with physical disabilities aged 20-41 participated in the study. Personal Data Form, Motivation Scale for Participation in Physical Activity (MSPPA) and Multidimensional Scale of Perceived Social Support (MSPSS) were used as data collection tools in the study. Participants received an above-average score from MSPPA and MSPSS in total and sub-dimensions. Individual reasons (one's own wishes, desires, situations that s/he thinks s/he will enjoy) were the most important in motivation; while in terms of social support the most significant one was family, the second one was friends. There was a positive correlation between MSPPA and MSPSS in total and sub-dimension scores of the participants. In MSPPA and MSPSS, the levels of the individuals with physical disabilities who did sports at elite level were significantly higher than those who did sports at amateur level. Our results revealed that motivation and social support had a very high importance on male athletes with physical disabilities. Our study is also important since it shows that athletes need more social support as they reach elite level and the social support has a positive impact on their motivations.

Keywords: *Physical disability, motivation, social support, athletes, sport*

1. Introduction

Problems caused by inactivity lead to deaths of more than 5.3 million people a year (Lee et al., 2012; Wilke, Vogel, & Vogt, 2019). Doing sports regularly is an effective method to reduce diseases and all-cause mortality (Woodcock et al., 2011). The sportive activity done chronically or acutely has physiological (Akil et al., 2015), physical (Lee, 2015) or psychological benefits. Although the World Health Organization (WHO) reports that all the individuals including people with disabilities should do exercise actively in order to be healthy (WHO, 2018), individuals with disabilities do not spend enough time for sports (Carlon et al., 2013). Reasons for not sparing enough time to sport include environmental factors (Ennis, 2017; Carballo-fazanes et al., 2020), demotivation, lack of confidence, friends and support from family or friends (Kruszyńska & Poczta, 2020).

Motivation is the driving force that enables individuals to take action (Cottingham et al., 2014). A number of driving forces are needed to be active sportively (Deans et al., 2012). Motivation factor is required for the long-term continuation of sport (Lawler, Heary, & Nixon, 2017). Studies have shown that individuals' sport behaviors increase with motivation factor (Reinbooth, Duda, &

Ntoumanis, 2004; Amorose & Anderson-Butcher, 2007); however, lack of motivation is one of the main reasons for decreased sport (Meenapriya, Gayathri, & Vishnu, 2018). Motivation depends on various factors. Healthcare professionals, for instance, often try to create health-related motivation to promote sport. In spite of the fact that this situation leads to short-term increases in sport, individual loses his or her motivation and sport may finish in time (Denford et al., 2019). More than 60% of individuals who start a regular exercise program end their activities within 6 months (Pate et al., 1995). The main reason why individuals with physical disability end their sports activities early is that they usually aim to increase their physical characteristics in training programs. However, it is necessary to ensure continuous participation in sports for health. Given the impact of sport in maintaining health benefits, behavioural changes need to be made in individuals to achieve lasting effects (Bloemen et al., 2015; Hjalmarsson et al., 2020). If we want to keep individuals with physical disability in sports continuously, we must consider motivational, individual and social support factors (Andersen, 2003; Uebelacker et al., 2020).

Perceived social support has many benefits to psychological health. Social support reduces overall stress, making individuals less susceptible to poor psychological outcomes (Schemitsch & Nauth, 2020). People who experience negative mental health consequences reduce the quality of their relationships with individuals. It is possible that perceived social support may be negatively affected by this situation. Therefore, even the perception of a reduction in social support alone can affect psychological outcomes when a physical disability is encountered (Carlson et al., 2016; Boersma-van Dam et al., 2021). The development of behavioral interventions targeting the psycho-social mechanisms of health and rehabilitation outcomes in various populations with chronic health problems is crucial (Simmich et al., 2021). These psycho-social goals include social support and motivation. Social support is constantly recommended by family, friends and peers to facilitate adaptation to the environment, especially in people with physical disabilities (Littman, Bouldin, & Haselkorn, 2017; Miller et al., 2021). Social support is recommended, but its effect is not exactly known in athletes with physical disability.

Individuals with physical disabilities need support to do sport and continue the sport they started (Shields, Synnot, & Barr, 2012; Jaarsma et al., 2015). Thus, knowing the factors that motivate those who do sport and continue can be a guide for non-doers. Motivation has been shown to be the psycho-social goal of increasing sports in individuals with physical disability (Miller et al., 2019). In this field, there are few studies on individuals with physical disabilities (Bloemen et al., 2017). Social support provided by family and friends is also recommended for adaptation to the environment and behavioral changes (Bloemen et al., 2015; Miller et al., 2021). Despite these recommendations, we believe that motivation and perceived social support factors are not adequately investigated for individuals with physical disability who do sports and continue their lives actively. In addition, the study of elite athletes and amateur athletes will further reveal the effects of motivation and social support, because elite athletes train more and travel more for competitions. It means more motivation and social support. In the present study, we tried to find answers to the following questions:

1. What are the motivational factors that encourage individuals with physical disability to do sports and the level of social support they perceive?
2. Is there a relationship between motivational reasons and perceived levels of social support?
3. Are there any differences between elite and amateur athletes who have physical disability in terms of their motivation to participate in sports and the social support they perceive?

2. Method

2.1. Research Design

A cross-sectional research design was followed in the current study. The dependent variable of the study was the average score taken from the scales. Before the data was collected, participants were told about the objectives, procedures, risks and benefits of the study. Those who had chronic health problems and took continuous treatment or had been taking drugs since last month were not included in the study. Ethical permission was approved by the Usak University Social and Humanities Scientific Research and Publication Ethics Board (protocol code #2020-94; 2020, July 10).

Participants were informed about the aim of the study. Informed consent forms were signed before the application. The scales were applied by trained administered interviewers. The scale application was done in groups of 10-25 people to ensure the focus and privacy of the participants. Participants were asked to note what they thought on the scale. They were informed that their responses would remain confidential. It was also stated that they could withdrawal.

2.2. Participants

A total of 666 male athletes with physical disabilities aged 20-41 participated in the study. Participants were identified by contacting sports federations for the disabled, clubs and coaches. National and regional competition schedules were checked. 27.03% ($n = 180$) of the participants were Football, 15.47% ($n = 103$) Basketball, 14.41% ($n = 96$) Goalball, 8.41% ($n = 56$) Swimming, 7.81% ($n = 52$) Table Tennis, 7.51% ($n = 50$) Athletics, 7.66% ($n = 51$) Volleyball, 4.65% ($n = 31$) Wrestling, 4.50% ($n = 30$) Fitness, 2.55% ($n = 17$) Tennis. 315 (47.3%) of the participants did sports at elite level, while 315 (52.7%) did sports at local level. 141 (21.2%) of the individuals with physical disabilities were involved in sports for less than 5 years, 323 (48.5%) for 6-10 years, 152 (22.8%) for 11-20 years, and 50 (7.5%) for 21-25 years. Athletes who were actively trained regularly under the control of the coach, constantly participated in national and international competitions were considered at elite level, those athletes who participated in sports at least 2 days a week, whether under the control of the coach or not, who could not participate regularly in training for various reasons, who did sports for health without the goal of success, were considered amateur athletes.

2.3. Data Collection Tools

2.3.1. Motivation Scale for Participation in Physical Activity (MSPPA)

This scale was developed by Tekkurşun & Cicioğlu in 2018. It was intended to measure the spread of physical activity and the determination of motivational factors in participation in physical activity that contribute to the formation of a healthy society. The scale consisted of 16 items and 3 sub-dimensions. Items 1,2,3,4,5 and 6 were related to individual motivation factors (a person's own wishes, desires, situations that he thinks he will enjoy),

items 8, 9, 10, 11 and 12 were related to environmental motivation factors (being affected by environmental factors), items 7, 13, 14, 15 and 16 were related to arbitrariness (uncertain feeling) factors. The lowest score in the scale was 16, the highest score was 80. Scores between 1-16 meant very low, 17-32 low, 33-48 moderate, 49-64 high, 65-80 very high motivation level of participating in physical activity. Items 3, 9, 13, 14, 15 and 16 were scored reversely. The Cronbach Alpha values of the original scale were between 0.82-0.89. The scale was reliable and valid. In this study, Cronbach Alpha coefficient value of Motivation Scale for Participation in Physical Activity which included 16 items was measured as 0.837.

2.3.2. Multidimensional Scale of Perceived Social Support (MSPSS)

Multidimensional Scale of Perceived Social Support (MSPSS) was developed by Zimet et al., in 1988. It was adapted into Turkish by Eker, Arkar & Yaldız in 2001. The scale is an easy-to-use, short scale that subjectively assesses the adequacy of social support from three different sources. The sub-scale structure includes support from family, friends and a special person. Items 3, 4, 8 and 11 refer to "Family", items 6, 7, 9 and 12 refer to "Friends" and items 1, 2, 5 and 10 refer to "A Special Person" sub-dimensions. The questionnaire has 7-point Likert scale. It has options ranging from 'Very Strongly Agree' (7 points) to 'Very Strongly Disagree' (1 point). The subscale score is calculated by adding score of 4 items in each sub-scale, and the total score of the scale is calculated by adding all sub-scale scores. The lowest score of the scale is 12, and the highest score is 84. The higher score means higher perceived social support. To measure internal consistency, Cronbach alpha was analyzed and it was found to be 0.884.

2.4. Statistical Analysis

To analyze the data, SPSS 21.0 program was used. Kolmogorov-Smirnov test was implemented to identify whether the distribution was normal or not. Since the data had a normal distribution, parametric tests were used. Independent Samples *T*-test was used for pairwise comparisons, and Pearson Correlation Test was used to determine the relationships between factors. The statistically significant level was accepted as $p < 0.05$.

3. Results

The participants got $M = 56.48$, $SD = 13.19$ total score in motivation. The score for individual factors was $M = 22.17$, $SD = 5.75$, the score for environmental factors was $M = 19.44$, $SD = 5.64$ and the score for arbitrariness was $M = 14.88$, $SD = 4.82$ in sub-dimensions. Total score in social support was $M = 62.01$, $SD = 14.84$. The score for family was $M = 21.80$, $SD = 5.67$, the score for friends was $M = 21.02$, $SD = 5.63$ and the score for special person was $M = 19.19$, $SD = 6.48$ in sub-dimensions (Table 1).

The correlation between motivation and social support was positive ($r = 0.283$, $p = 0.000$) according to the total score of the participants. Analysing the sub-dimensions, the correlation between individual factors, family ($r = 0.343$, $p = 0.000$), friends' sub-dimension ($r = 0.345$, $p = 0.000$) and total social support score was positive. Moreover, it was positive between environmental factors, family ($r = 0.164$, $p = 0.000$), friends ($r = 0.169$, $p = 0.000$) and total social support score ($r = 0.145$, $p = 0.000$). The correlation between arbitrariness and family ($r = 0.258$, $p = 0.000$), friends ($r = 0.310$, $p = 0.000$) and social support total score ($r = 0.244$, $p = 0.000$) was positive, too (Table 2).

It was determined that the motivation level of individuals who did sport at elite level was significantly higher than those who did sport at amateur level in terms of individual, environmental, arbitrariness and motivation total scores. In addition, the social support level of individuals with disability who did sport at elite level was significantly higher than those who did sport at amateur level according to family, friend, special person and social support total scores ($p < 0.05$; Table 3).

4. Discussion

Individuals with physical disability were significantly behind in sports (Lauruschkus et al., 2013). Individual preferences, family attitudes, inadequate facilities and transport deficiencies were shown as barriers to participation in sports (Shields & Synnot, 2016). Motivation is one of the things that inadequate individuals with disability needs to participate in sports. Individual and environmental contributions can motivate them to participate in sports (Sherrill, 2004; Newitt et al., 2016).

Table 1. Total Scores and Standard Deviation Values in Motivation and Social Support Scales

	<i>n</i>	<i>Min</i>	<i>Max</i>	<i>M±SD</i>
Motivation Scale for Participation in Physical Activity	666	16	80	56.48 ± 13.19
Individual Factors Sub-dimension	666	6	30	22.17 ± 5.75
Environmental Factors Sub-dimension	666	6	30	19.44 ± 5.64
Arbitrariness Sub-dimension	666	4	20	14.88 ± 4.82
Multidimensional Scale of Perceived Social Support	666	12	84	62.01 ± 14.84
Family Sub-dimension	666	4	28	21.80 ± 5.67
Friends Sub-dimension	666	4	28	21.02 ± 5.63
Special Person Sub-dimension	666	4	28	19.19 ± 6.48

Table 2. *Motivation and Social Support Scales' Correlation Table (N = 666)*

		Family	Friends	Special	MSPSS Total
Individual Factors	<i>r</i>	0.343**	0.345**	0.094*	0.303**
	<i>p</i>	0.001	0.001	0.015	0.001
Environmental Factors	<i>r</i>	0.164**	0.169**	0.041	0.145**
	<i>p</i>	0.001	0.001	0.293	0.001
Arbitrariness	<i>r</i>	0.258**	0.310**	0.064	0.244**
	<i>p</i>	0.001	0.001	0.099	0.001
MSPPA Total	<i>r</i>	0.313**	0.336**	0.082*	0.283**
	<i>p</i>	0.001	0.001	0.035	0.001

**Correlation is two sided and significance level is 0.01, *Correlation is two sided and significance level is 0.05.

Table 3. *Motivation and Social Support T-Test Scores of Elite/Non-Elite*

	<i>Elite Athlete?</i>	<i>n</i>	<i>M±SD</i>	<i>t</i>	<i>p</i>
Individual Factors	Yes	315	24.19 ± 4.14	9.117	0.000**
	No	351	20.35 ± 6.37		
Environmental Factors	Yes	315	20.90 ± 4.34	6.523	0.000**
	No	351	18.13 ± 6.31		
Arbitrariness	Yes	315	15.86 ± 4.61	5.068	0.000**
	No	351	14.00 ± 4.83		
Motivation Total	Yes	315	60.95 ± 9.38	8.730	0.000**
	No	351	52.48 ± 14.75		
Family	Yes	315	23.02 ± 4.88	5.383	0.000**
	No	351	20.70 ± 6.10		
Friends	Yes	315	22.70 ± 4.87	7.645	0.000**
	No	351	19.50 ± 5.84		
Special Person	Yes	315	20.29 ± 6.10	4.175	0.000**
	No	351	18.21 ± 6.67		
Social Support Total	Yes	315	66.01 ± 12.89	6.825	0.000**
	No	351	58.41 ± 15.55		

***p* < 0.05 indicates significant difference.

The motivation factor has been shown to be necessary in maintaining long-term sports as well as being encouraged to do sports (Lawler, Heary, & Nixon, 2017). Individuals' sports behaviors can increase in parallel with the influence of motivation (Reinbooth, Duda, & Ntoumanis, 2004; Amorose & Anderson-Butcher, 2007), and they can either decrease or end when motivation falls (Meenapriya, Gayathri, & Vishnu, 2018). Although there are motivation differences among athletes from different countries in the study comparing motivation to participate in sport among wheelchair tennis players, high motivation in all groups is important because it is parallel to our study (Jeong & Park, 2013). The results indicate that motivation is effective on individuals with physical disability and individual and environmental reasons which motivate them should be given importance to make them continue their sports lives.

Family is the most important and first supporter for the individual to do sports. The importance that a family gives to sports determines their children's level of attendance to sports (Shields & Synnot, 2016; Solomon-Moore et al., 2018; Howie, Daniels, & Guagliano, 2018). The study conducted by Top & Akil (2021) is significant in terms of

indicating the effect of family on sport since they remark that families' status of alexithymia and social problem-solving skills affect whether they encourage their children to do sports or not. Because the healthy functioning of the family plays an important role in the participation of disabled children in social life (Bennett & Hay, 2007), family social support is very effective on people with low motivation. It should; therefore, be noted that the athletes with physical disabilities need a supporting network such as family members, friends, teammates, coaches or others close to them (Lu & Hsu, 2013). Also, male athletes with high emotional intelligence need more support from their coaches and teammates. It helps to reduce stress on them and increases their levels of welfare (Malinauskas & Malinauskiene, 2018). For this reason, athletes with physical disabilities should be supported by their families and intimate circles. This support can contribute both psychologically and physically to the lives of athletes with physical disabilities.

Individuals with physical disabilities should overcome more challenges as they rise in their sports career. The financial situation, professional health assistance, lack of

facilities required for sports activities are some of these challenges. Apart from these, one of the important factors is the understanding of the environment towards these individuals (Sobiecka et al., 2019). The motivations and perceived social support of elite athletes with physical disability participating in the study are higher than those of amateur athletes (Table 3). It is important since it approves that the elite athletes have more motivation to overcome more challenges and need more social support. The study done on elite athletes with disability is notable since the findings of the study are in line with the results of our study in terms of showing that environmental factors are preliminary among the reasons against sport and supports are generally individual factors (Jaarsma et al., 2014). The fact that motivation differs between elite and non-elite athletes, the importance of family support in achieving elite performance, as well as the fact that elite athletes consider their families as a source of support and courage for themselves confirm our results (Teques et al., 2019). The finding that more social support is needed for athletes with physical disabilities to reach the professional level can contribute to the present literature.

Our results show the role of family, the need for support and the impact of motivation on athletes with physical disability engaged in sports. Athletes with physical disability need more social support as they reach the elite level, and this social support motivates them positively. The results of this study can contribute to future studies. However, how social support arises, what affects this factor and at what stage it contributes to the motivation of individual with physical disability is not known and it is an important limitation of the study. As a result, doing longitudinal research studies and in-depth analysis of these factors are necessary for getting more significant results.

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