



Sport Motivation of Paralympic Athletes after Injury

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Abstract

Motivation for performing sport is complex because most athletes have multiple motivations, including extrinsic and intrinsic motivation. Understanding the athlete motivation dynamics, especially after a sports injury, is crucial because the injury may negatively affect the athlete's psychosocial conditions. This study figured out the motivation level of Paralympic athletics athletes after injury. A total of 44 Paralympic athletes were involved in the survey. The Sports Motivation Scale (SMS) was used to identify the athlete's motivation level. The SMS was developed within the self-determination theory (SDT) framework to assess various forms of motivation, namely amotivation, external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic motivation. This study found that, out of 44 Paralympic athletics athletes after an injury, only 5 (4.55%) of the athletes were reported in the high amotivation level, and 15 (34.09%) of the athletes were identified in the moderate amotivation level. This finding indicates that injury does not really affect amotivation, as the athletes exhibit a high level of extrinsic motivation (external regulation, introjected regulation, identified regulation, integrated regulation) and intrinsic motivation. Based on these motivation profiles, the Paralympic coaches should adjust their approach in motivating the Paralympic athletes to return to their training and competitions after injury.

INTRODUCTION

Every athlete has the possibility to get injured either during regular practices/training or in the competition. The impact of the injury on the athlete's psychosocial aspects has gained attention from scholars because of the undesirable consequences of injury. It can be a complex process for some athletes to return to sport.

Cited from several studies, some concerning issues related to athletes after an injury, such as the ability to perform and pre-injury period, anxiety related to reinjury, and alienation feeling from teammates or coaches (Iñigo, Podlog, & Hall, 2015). In contrast, the athletes who return to sport after an injury have different reasons underlying their behaviors.

Different studies find out various motivations driving the athletes to return to sport. For example, summarized from several research, Podlog & Eklund (2010) identify that motivations include monetary incentives, fear of sanctions, athlete identity, or sense of accomplishment of the competition. In addition, returning to sport after injury requires psychological readiness that involves three attributes: confidence in performance, realistic expectation of their sports capabilities, and motivation to achieve the pre-injury performance standard (Podlog, Banham, Wadey, & Hannon, 2015).

There are different motivational theories to understand sport motivations, such as achievement goal theory, competence motivation theory, and self-determination theory (Li, Kawabata, & Zhang, 2018). This study used self-determination theory (SDT) to frame the motivations underlying the athlete's return to sport after injury. According to SDT (Deci & Ryan, 2008; Ryan & Deci, 2000, 2019), motivations range from extrinsic to intrinsic motivation continuum. Extrinsic motivation refers to doing something to get outcomes separable from the enjoyment of the activity itself, while intrinsic motivation refers to doing an activity because it is inherently pleasurable and satisfactory (Deci & Ryan, 2008; Ryan & Deci, 2019).

Motivation is critical to sports performance. Therefore, understanding the factors affecting athlete motivation is essential. In the SDT view, because most athletes have multiple reasons to engage in sport, the motivation for sport becomes a complex phenomenon. However, SDT provides a comprehensive theoretical and applicable framework for understanding how vari-

ous extrinsic and intrinsic motivations are related to different athlete behaviors in sport (Pelletier, Rocchi, Vallerand, Deci, & Ryan, 2013). According to SDT (Deci & Ryan, 2008; Ryan & Deci, 2000, 2019), motives that energize behaviors can vary from amotivation, extrinsic motivation, and intrinsic motivation. Furthermore, people's behaviors can be motivated simultaneously by several motives, either intrinsically and extrinsically (Ryan & Deci, 2020).

Amotivation is the state when individuals act without an intention or do not have any intention to act so that they do not act at all. When individuals cannot perceive contingency between behaviors and the outcome of behaviors, they have a reason to stop their actions (Deci & Ryan, 2008). For example, athletes in this state may decide to stop participating in sport (Pelletier et al., 1995). Unlike other perspectives on motivation, SDT differentiates extrinsic motivation into four types, namely external regulation, introjected regulation, identified regulation, and integrated regulation. These extrinsic motivations reflect the degree to which individuals can regulate their behaviors. It indicates the level of autonomous or self-determined behavior from the least to the most self-determined.

External regulation refers to behaviors directed and controlled by external demands, such as reward and punishment. The locus of behavior causality is entirely external (Deci & Ryan, 2008). Introjected regulation is a type of extrinsic motivation in which behavior regulation is driven by individuals but not entirely accepted as part of their own, recognized as a partial internalization. The goal of behaviors is to demonstrate ability and achieve self-worth to avoid guilt, anxiety, and shame of failure. Individuals with introjection motivation still feel that external demands pressure and control them (Ryan & Deci, 2019). In identified regulation, individuals value their behaviors as personally important.

For this reason, they regulate their behaviors without feeling pressured or controlled. Despite accepting responsibility for regulating the behaviors as their own, it has not been entirely internal. Identified regulation transforms into integrated regulation when individuals fully accept the behavior regulation as their own because of its congruence with their values, objectives, and needs. Although actions in integrated regulation have similarities with intrinsic motivation, integrated regulation is still categorized as extrinsic motivation

because the goal of actions is to attain separable outcomes rather than the interest or satisfaction from the behaviors. Intrinsic motivation refers to doing activities because of the inherent pleasure or enjoyment of the activity. Individuals who regulate their behaviors are highly self-determined (Ryan & Deci, 2019).

Assessing different types of athlete motivation in sport (extrinsic motivation and intrinsic motivation) is essential because each motivation type is associated with varying outcomes. Positive consequences are related to the end of the intrinsic motivation continuum (Podlog & Eklund, 2007). Moreover, Mallett, Kawabata, Newcombe, Otero-Forero, & Jackson (2007) summarize numerous studies that individuals with higher autonomous motivation levels show more engagement, more remarkable persistence, higher adaptive resilience, and better performance. On the other hand, cited from several studies, (Li et al., 2018) state that amotivation and external regulation are related to negative effects, such as burnout, negative moral behaviors, and drop-out. Furthermore, the more self-determined motivation is associated with adaptive behaviors, whereas the less self-determined is related to maladaptive outcomes (Jowett, Adie, Bartholomew, Yang, Gustafsson, & Jiménez, 2017). Therefore, due to the different consequences of different types of motivation, it is crucial to monitor the athlete motivation from SDT perspectives.

Research on non-disabled athlete motivation is considerable. In contrast, research on the motivation of athletes with physical disabilities is limited. This study filled this gap in the literature. Only a few researchers dedicated study to Paralympic sport (Kadyrbaiuly, 2018). This study explored the motivation in sport, especially for the Paralympic athletes who experienced injuries. As noted by the International Paralympic Committee in 2012, the injury rate of disabled athletes was higher than the of non-disabled athletes (Guerro, Martin, & Prokesova, 2021).

Moreover, Fagher, Dahlström, Jacobsson, Timpka, & Lexell (2020) reported a high prevalence of injuries and illnesses among Paralympic athletes. Therefore, the purpose of this paper was to describe the motivation level (within the SDT framework) of the Paralympic athletics athletes after experiencing an injury. By understanding various athlete motivations after injury, the coaches can modify the best approach for motivating

the athletes to engage in sport. In addition, findings from this study could give information to the Paralympic coaches about the motivation level of the Paralympic athletes after injury. The Paralympic coaches are then required to adjust their approach to motivate the Paralympic athletes to return to sport based on their motivation profile. (Banack, Sabiston, & Bloom, 2011) state that coaches should try to match the program to athletes' functional capacity and ability level with a disability. The coaches need to understand the athlete's disabilities and limitations in performing movements (Alexander, 2020, in Alexander & Bloom, 2021).

METHODS

Participants

A total of 44 Paralympic athletics athletes were involved in a survey, comprising 14 (33,33 %) females and 30 (66,67%) males. The age range of participants was from 16 to 34 years (Mean= 26,51, SD= 5,61). Most of the participants graduated from high school (59.09%) and secondary school (18.18%). The participants identified the severity level of injury. Out of 44 participants, 5 (11.36%) participants had a serious injury, and 39 (88.64%) participants experienced a minor injury. The length of injury and rehabilitation was varied, from several days to several months.

Sampling Procedure

The population of this study was the Paralympic athletics athletes having been trained at the National Training Center (Pelatnas) in Solo. Due to the small population (less than 100), this study used a total sampling approach (Sugiyono, 2013). Therefore, all the Paralympic athletics athletes were involved as the samples of this study.

Measures

The Sports Motivation Scale (SMS) was developed by Pelletier et al. (1995) and revised into SMS-6 by Mallett et al. (2007). This scale was used to assess the individual level of motivation to the sport. The newest version of SMS (SMS II) was published by Pelletier et al. in 2013. However, this study used the former revised version (SMS-6) (Mallett et al., 2007). In this scale, participants indicated their responses to the statements using a Likert scale. Originally, the SMS used a 7-point Likert scale, but this study modified the scale

into a 5-point scale, ranging from 1 (does not correspond at all) to 5 (corresponds completely).

The SMS consists of 24 statements that measure six forms of motivation: amotivation, external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic motivation. The coefficient of internal consistency was assessed using Cronbach Alpha, which ranged from 0.73 to 0.82 with a mean of 0.77 (Mallett et al., 2007), demonstrating an acceptable level.

Procedure

All targeted participants were provided with information explaining the purpose of the study and voluntary nature to involve in this study. All targeted participants, who were invited, agreed to participate in this study. Participants completed the questionnaire in a paper and pencil format. The questionnaire was a self-report comprising demographic information, injury experiences, and the scale to measure motivation level in sport. The participants also reported injury types and categorized the injury into severe and minor injuries.

RESULT

As mentioned above, the SMS consists of 24 items in which each type of motivation is assessed by 4 items. Therefore, the minimum and maximum scores of each type are 4 and 20, respectively. Descriptive analysis of each motivation type is portrayed in Table 1.

Table 1. Statistics Descriptive of Motivation Types

	Amotivation	External Regulation	Introjected Regulation	Identified Regulation	Integrated Regulation	Intrinsic Motivation
Maximum	15	19	20	20	20	20
Minimum	5	7	12	12	11	11
Mean	8,75	14,18	16,05	16,77	16,66	16,70
SD	2,48	2,84	2,01	1,74	1,80	2,03

Based on the total score of participants in each motivation type, participants in this study were categorized into three motivation level groups: low, moderate, and high. However, the cut-off score for categorizing the three groups was not based on the empirical score distribution but was associated with the theoretical

mean and standard deviation (Mean=12, SD=2.67). Those who had scores < 9.33 were grouped into a low level. Those who had a score between 9.34 and 14.67 were classified into the moderate level. Those who gained a score > 14.97 were associated with a high level. The participant distribution of each motivation type is shown in Table 3 or Figure 1.

Table 3 and Figure 1 show that 4,55 % of the athletes are in the high amotivation level, 34,09 % are in the moderate amotivation level, and 61,38 % are in the low motivation level. This finding indicates that only a small number of Paralympic athletics athletes exhibited a lack of intention to participate in the sport after injury. Furthermore, in external regulations, the number of participants in moderate (47.73%) and high (45.45%) motivation level is almost similar. This number represents that most participants regulated their behaviors because of external rewards. As shown in Table 2, more than 70% of participant motives of behaviors were for prestige.

Interestingly, although more than 50% of participants were concerned with material incentives, 37,30% were not motivated by material benefits. In introjected regulation, the percentage of athletes with high motivation levels (72.73%) is significantly higher than moderate motivation levels (27.73%). It can also be seen that in identified and integrated regulation, the number of athletes with a high level of motivation increased. They moved from 90.91% in identified regulations to 93.18% in integrated regulation. This finding shows that more

athletes had a sense of self-determination in regulating their behaviors in the sport after injury. However, the number of athletes expressing intrinsic motivation (86.36%) was less than the integrated regulation.

Table 2. Percentages of Participant Responses in the SMS

Statement		1	2	3	4	5
Amotivation						
1	I don't know anymore; I have the impression of being incapable of succeeding in this sport	43,2	45	11,4	0,0	0,0
2	I don't know if I want to continue to invest my time and effort as much in my sport anymore	4,5	22,7	0,4	22,7	6,8
3	It is not clear to me anymore; I don't really think my place is in sport	40,9	47,7	0,1	2,3	0,0
4	I don't seem to be enjoying my sport as much as I previously did	20,5	50,0	0,2	6,8	6,8
External Regulation						
5	Because it allows me to be well regarded by people that I know	4,5	13,6	0,2	38,6	27,3
6	For the prestige of being an athlete	4,5	9,1	0,1	43,2	29,5
7	For the material and/or social benefits of being an athlete	6,8	29,5	0,1	45,5	6,8
8	To show others how good I am at my sport	6,8	15,9	0,2	40,9	18,2
Introjected Regulation						
9	Because it is absolutely necessary to do sports if we want to be in shape	2,3	11,4	0,1	34,1	45,5
10	Because I must do sports to feel good about myself	2,3	0,0	0,1	75,0	15,9
11	Because I would feel bad if I was not taking time to do it	4,5	2,3	0,2	40,9	34,1
12	Because I must do sports regularly	2,3	0,0	0,1	68,2	15,9
Identified Regulation						
13	Because it is a good way to learn lots of things which could be useful to me in other areas of my life	0,0	2,3	0,0	50,0	47,7
14	Because it is one of the best ways I have chosen to develop other aspects of my life	0,0	0,0	0,1	54,5	38,6
15	Because it is one of the best ways to maintain good relationships with my friends	0,0	6,8	0,1	61,4	25,0
16	Because training hard will improve my performance	2,3	2,3	0,1	72,7	15,9
Integrated Regulation						
17	Because it is part of the way in which I have chosen to live my life	0,0	2,3	0,0	61,4	36,4
18	Because it is an extension of me	0,0	0,0	0,0	65,9	29,5
19	Because participation in my sport is consistent with my deepest principles	2,3	0,0	0,1	68,2	20,5
20	Because participation in my sport is an integral part of my life	0,0	9,1	0,0	63,6	25,0
Intrinsic Motivation						
21	For the excitement I feel when I am really involved in the activity	9,1	4,5	0,0	52,3	29,5
22	Because I feel a lot of personal satisfaction while mastering certain difficult training techniques	0,0	2,3	0,1	59,1	29,5
23	For the satisfaction I experience while I am perfecting my abilities	0,0	0,0	0,0	52,3	43,2
24	For the pleasure of discovering new performance strategies	2,3	0,0	0,0	59,1	36,4

Table 3. Percentages of Participant Responses in the SMS

	Amotivation		External Regulation		Introjected Regulation		Identified Regulation		Integrated Regulation		Intrinsic Motivation	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Low	27	61,36	3	6,82	0	0,00	0	0,00	0	0,00	0	0,00
Moderate	15	34,09	21	47,73	12	27,27	4	9,09	3	6,82	6	13,64
High	2	4,55	20	45,45	32	72,73	40	90,91	41	93,18	38	86,36

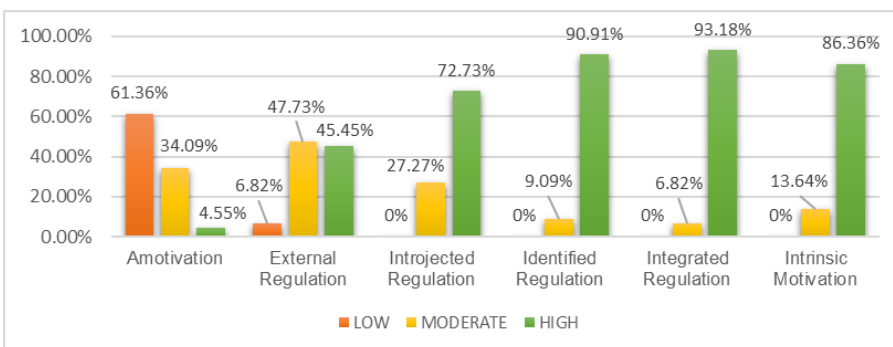


Figure 1. Percentages of Each Motivation Level

DISCUSSION

The finding of this study shows that more than 86% of athletes had a high level of motivation in identified regulation, integrated regulation, and intrinsic motivation. This finding supports the previous research stating that athletes generally show a high level of motivation, including extrinsic and intrinsic motivations. There is no significant motivational behavior difference between Paralympians and non-Paralympian, but disabled athletes are driven mainly by a high level of intrinsic motivation (Szemes, Szájer, & Tóth, 2017). However, in this study, the percentages of athletes who had high levels of external regulation were almost 50%, while those with high introjected regulation were 72.73%. In the SDT view, external and introjected regulations mean that extrinsic motivation drives individual behaviors (Ryan & Deci, 2019).

Regarding the athletes having high extrinsic motivation, the coaches should adapt their approach to the athletes to decrease the number of athletes who still need external pressure to be motivated. Banack et al. (2011) suggest the importance of the relationship between coach autonomy-supportive behaviors and disabled athlete motivations in sport. Furthermore, (Podlog & Dionigi, 2010) describe specific strategies for coaches in approaching the athletes to return to sport after experiencing an injury, such as autonomy-supportive coaching behaviors (Rocchi, Pelletier, & Lauren Coulture, 2013).

However, this study also found that the Paralympic athletes also had high intrinsic motivation levels despite experiencing an injury. This finding is related to the small number of athletes who experienced a severe injury. Having different kinds of athlete motivation in sport concurrently verify that motivation in sport is a complex phenomenon. Moreover, this result confirms Banack et al. (2011) conclusion from several studies that athletes with physical disabilities tend to exhibit a high level of intrinsic motivation. Even though the introjected, identified, and integrated regulations are different types of extrinsic motivations, those types are considered autonomous motives (Podlog & Eklund, 2010) and intrinsic motivation.

This study has several limitations. Due to the imbalance of female and male participants, this study did not compare the level of sports motivation based on gender. This study also did not limit the fixed time

frame of injury. Therefore, the size effect of injury on their sport motivation may vary. A study of Swedish Paralympic athletes reports that females have a higher prevalence of getting injured than males in the one-year retrospective period (Fagher et al., 2020). Based on these limitations, further research is suggested to consider several issues, such as the participant gender proportion, type of impairment, type of injury, and time frame of injury. In addition to sport motivation, it is also interesting to explore the athlete's reasons for remaining committed to sport after experiencing an injury

CONCLUSION

In conclusion, the Paralympic athletics athlete's motivation in sport in this study was not affected by their injury. They presented a high level of motivation, especially in self-determined motivation (identified and integrated regulations) and intrinsic motivation. Despite the athlete's high motivation level, the coaches still have to consider the athlete's motivational profiles to maintain their motivation and performance in sport.

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