The relationship between multidimensional social support and well-being in disability sport

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ABSTRACT

In this study, we investigated the relationships among perceived social support, perceived available support in sport, team cohesion, grit, sport engagement, and life satisfaction among disability sport athletes. Twenty-four athletes from Israel and Belgium, aged 22 to 65, 87.5% male (n = 24) and 12.5% female (n = 3), with physical disabilities participated. The results showed significant positive correlations between team cohesion and sport engagement ($r = 0.44$, $p < 0.05$) and life satisfaction ($r = 0.57$, $p < 0.01$). Team cohesion was also linked to perceived social support ($r = 0.55$, $p < 0.01$). Finally, grit and sport engagement ($r = 0.50$, $p < 0.01$) and perceived social support and sport engagement ($r = 0.50$, $p < 0.05$) were correlated. These findings underscore the importance of supportive social environments inside and outside of sport in potentially enhancing athlete well-being.

INTRODUCTION

Participating in sport can be stressful. Although athletes' with disabilities psychological skills are considered an important method to manage stress, social support is also very critical (Swanson et al., 2008; Udry et al., 1997). Social support is particularly important for athletes with disabilities (Atkinson & Martin, 2020; Martin & Mushett, 1996; Shapiro & Martin, 2010; 2014). Athletes with disabilities experience a lack of social support as they usually have few close friends and they have minimal contact with

teammates because they frequently have to train by themselves (Braithwaite et al., 1999; Martin, 2019; 2018; 2010). As a result, social support inside and outside of sport may be very important. Social support is also a crucial marker of well-being and correlates positively with various favorable personal, psychological, behavioral, social, interpersonal, and intrapersonal outcomes (Proctor et al., 2009). In brief, the purpose of this study is to address the lack of disability sport social support research by determining if various forms of sport and non-sport specific social support predict well-being markers in and outside of sport. It also extends Martin's line of work on social influence by examining forms of social support (e.g., team cohesion) that have been under-researched in disability sport (Falcão et al., 2015).

Our first purpose was to examine to what degree three types of social support predicted grit, sport engagement, and life satisfaction. Our second purpose was to provide important descriptive information on all of our variables, particularly the social support variables because social support has been under-researched in disability sport. In the following sections, we discuss the variables examined in the current study.

Our first type of perceived social support (PSS) is derived from friends, family, and significant others, and how these sources can provide support, information, and feedback. PSS does not distinguish between types (e.g., emotional versus informational) of social support. The social support resources provided by others can either have a positive or negative effect on an individual (Zimet et al., 1988). Perceived social support is defined as an individual's accessibility to the support that they receive from family, friends, and significant others and it is not sport-specific. This form of social support is thought to influence athletes' self-confidence (Freeman & Rees, 2010). Hence, by extension, we also believe it should be positively linked to our well-being measures.

The second type of social support is perceived available social support in sport and is therefore sport specific, unlike the PSS. It covers four different dimensions: emotional, esteem, informational, and tangible dimensions of support. Athletes rate their perceived level of support from four different sources: coach support, teammate support, family support, and friend support (Cutrona & Russell, 1990; Freeman et al., 2011). Emotional support is when an individual feels loved and cared for by others who are there for them. Esteem support is the reinforcement of one's self-esteem or sense of competence by others. Informational support is knowledge provided by others such as where an athlete can train and also refers to the influential support provided by others (Cutrona & Russell, 1990). Furthermore, this form of sport social support is also different from our first type of social support (i.e., PSS) as it measures four different types of social support from four different resources (Freeman et al., 2011).

Team cohesion is our third form of social support and is considered a very important small-group variable (Golembiewski, 1962; Lott & Lott, 1965). Team cohesion is what makes group members remain in a group they are part of (Festinger, 1950). The model has two major distinctions: Individuals versus groups, and task and social cohesion. Hence it is a model of four constructs: individual attraction to the group-social, individual attraction to the group-task social, group integration-social, and group integration-task (Brawley & Carron, 2002; Carron et al., 1985). This multidimensional measure is considered one of the most important group variables for sport teams (Brawley & Carron, 2002). Finally, the current measure is conceptually different from

our first two social support measures. Cohesion is how an athlete expresses their feelings about the sport team they are working with. The main idea of this measure is to assess how much social support exists within the group of athletes and unlike the first two forms, not from their environment or the people they are living with.

The diversity of our measures of social support provides a comprehensive view of social support that is sport-specific and non-sport-specific. As a result, our three measures allow us to have a better understanding of the type of support needed under different conditions and the ability to predict our three forms of well-being (Holt, 2006; Petrie & Falkstein, 2008). Athletes need distinctive forms of support to deal with both non-sport and sport-specific life challenges and demands (Rees & Hardy, 2000). Therefore, researchers indicate that social support measures should be aligned with the athletes and the situation in which they are assessed (Bianco & Eklund, 2001; Wills, 2000). In this study, we sought wanted to determine which type of social support would be best at predicting, three distinct forms of well-being; grit, sport engagement, and life satisfaction.

Next, we discuss our well-being measures. First, we assessed grit to investigate athletes' long-term goals and their trait-level perseverance and passion toward those goals. Grit keeps individuals motivated during long-term projects with effort and interest and it is related to the need for achievement. Individuals with stronger grit follow their goals no matter if they are getting positive feedback or not (Duckworth et al., 2007).

Grit is related to sport success, which means grittier athletes tend to perform better than less gritty athletes (Duckworth et al., 2011; Ford et al., 2012). Larkin et al. (2016), also indicated that grittier soccer players were more inclined to spend long periods of time engaging in sport-specific activities compared to their counterparts.

Our second well-being variable is sport engagement, which is defined as a persistent, positive, cognitive-affective experience in sport with four core dimensions. The dimensions are confidence, dedication, vigor, and enthusiasm. Confidence is defined as a sense of self-assurance in one's capability to perform at a high level. Dedication is defined as a strong motivation to put in the effort and allocate time toward accomplishing goals that an individual considers crucial. Vigor is characterized as a manifestation of physical, mental, and emotional energy and animation. Last, enthusiasm is defined as a feeling of excitement and high levels of enjoyment (Lonsdale et al., 2007). Hence, it is a broader measure of sport well-being compared to grit.

Researchers have also found that team cohesion is associated with lower burnout symptoms in athletes (Pacewicz et al., 2020). Additionally, the more engaged the athletes are in sports the less they experience burnout. Burnout is the conceptual opposite of sport engagement. Hence, the Pacewicz et al. (2020) results indirectly supports our hypothesis that team cohesion should be positively linked to sport engagement.

Our last dependent variable is life satisfaction, is non-sport-specific, which is defined as a cognitive judgmental process resulting in a global judgment of one's quality of life. These judgments are dependent on one's actual situation in comparison with what they believe as a standard and they compare their current situation with that standard. In brief, life has different aspects such as health, wealth, or marital bliss, and due to that, people assign different weights to each domain (Diener et al., 1985).

Perceived social support is positively related to life satisfaction. This means a higher level of perceived social support is associated with higher life satisfaction in comparison with lower social support (Achour & Nor, 2014; Duru, 2007; Heintzelman & Bacon, 2015; Mahanta & Aggarwal, 2013). Social support has also been correlated with physical health and being engaged in sports and physical activity (Uchino et al., 1996). In other words, social support has been recognized as an effective factor in people's perceptions of sport engagement (King et al., 2008).

In terms of hypotheses, our three diverse forms of social support were expected to be positively related to grit, sport engagement, and life satisfaction. However, given the exploratory nature of our study, we were unsure of what relationships among the various combinations of dependent and independent variables would be strongest. However, we expected a sport specific construct like team cohesion to be more strongly linked to a sport specific outcome such as sport engagement than a non-sport specific outcome such as life satisfaction.

In summary, social support is critical to athletes' well-being, particularly disabled athletes. In addition, little social support research in disability sport has been done and no research has examined three diverse forms of social support and how they are related to three forms of well-being. Hence our study addresses a research gap on an important topic in the psychology of disability sport.

METHOD

Participants and setting
Twenty-four (n = 24) national level wheelchair athletes from Israel (n = 16) and Belgium (n = 8) participated in this study. Athletes ranged in age from 22 to 65 years (M = 39.7, SD = 11.89). Participants reported physical disabilities and had been using a wheelchair for years ranging from 4 years to 38 years at the time of the data collection. The breakdown by gender was 87.5% male (n = 24) and 12.5% female (n = 3). Participants had physical disabilities such as amputation, paraplegia, diplegia, cerebral palsy, spina bifida, cauda equina syndrome, or brain injury.

MEASURES

Demographic scale
The demographic information provided by athletes included their age, gender, ethnicity, disability condition, years of wheelchair use, and team position.

Instruments
Each scale and subscale are described next:

Independent variables

Perceived social support
Perceived social support was measured with the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al., 1988). It has three subscales: friends, family, and significant others. The MSPSS has a total of 12 items with four items

for each subscale. Participants answered on a 7-point rating scale ranging from very strongly disagree (1) to very strongly agree (7). An example item for the family is "My family really tries to help me". An example item describing friends is "My friends really try to help me". And an example item for significant other is "There is a special person who is around when I am in need". The scores produced by this scale have demonstrated adequate internal and test-retest reliability as well as the validity (Zimet et al., 1988).

Perceived available support in sport
Perceived available support in sport was measured with the Perceived Available Support in Sport Questionnaire (PASS-Q). The PASS-Q is a 16-item, four-factor scale in which four questions represent each factor. An example item for emotional support is "Provide you with comfort and security". An example item for esteem support is "Reinforce the positives". An example item for Informational support is "Give you constructive criticism". An example item for tangible support is "Help with travel to training and matches". Participants rated the questions on a 5-point Likert scale and expressed their satisfaction (from 1 very dissatisfied – 5 very satisfied), difficulty (from 1 very difficult – 5 very easy), and importance (from 1 very unimportant – 5 very important). The structural validity and reliability of the scores of this measure are strong (Freeman et al., 2010).

Team cohesion
Social cohesion was measured with the Group Environment Questionnaire (GEQ). The GEQ consists of 18 questions and has four subscales. Individual attractions to the group social (ATGS) is "I enjoy being a part of the social activities of this team". An example item for individual attractions to the group-task social (ATGT) is "I like the amount of playing time I get". An example item for group integration social (GIS) is "Members of our team would rather get together as a team than hang out on their own". An example item for the group-integration task (GIT) is "Our team works together in trying to reach its goals for performance". Participants rated the question on a 7-point scale (Strongly disagree = 1 to Strongly agree = 7) (Eys et al., 2007). The validity and reliability of the scores produced by this measure are also strong (Carron et al., 1998).

Dependent variables

Grit
Grit was measured with the Grit-S scale which consists of 12-items with two subscales: Consistency of interest and perseverance of effort. A sample question from the consistency of interest is "I often set a goal but later choose to pursue a different one". An example item for the perseverance of effort scale is "I have achieved a goal that took years of work". Participants rated the questions on a 5-point Likert-type scale ranging Using a 5-point Likert-type scale ranging from 1 (Not at all like me) to 5 (Very much like me). Six items are reverse scored (questions 1 to 6). The validity and reliability of the scores measured by this scale are strong (Duckworth et al., 2007).

Sport engagement

Sport engagement was measured by the 16-item Athlete Engagement Questionnaire (Lonsdale et al., 2007). The scale consists of four subscales: confidence, dedication, vigor, and enthusiasm. A sample question for confidence is "I believe I am capable of accomplishing my goals in sport". An example item for dedication is "I am dedicated to achieving my goals in sport". An example item for vigor is "I feel energetic when I participate in my sport". An example item for enthusiasm is "I feel excited about my sport". Athletes responded using a 5-point Likert scale (1 = almost never, 5 = almost always). The validity and reliability of scores produced by this scale are strong (Martins et al., 2014).

Life satisfaction

We measured life satisfaction with a 5-item scale designed to measure participant's cognitive judgments of one's life satisfaction. A sample item for this scale is "The conditions of my life are excellent". Participants indicate how much they agree or disagree with each of the 5 items using a 7-point scale that ranges from 7 strongly agree to 1 strongly disagree (Diener et al., 1985). The validity and reliability of scores produced by this measure are adequate (Zanon et al., 2014).

Procedures

We conducted the study after getting permission from the University's Internal Review Board and the athletes. Athletes filled out the questionnaires individually during practice.

Data analysis

IBM SPSS (Version 29.00) was used for all analyses. Data were initially screened for missing data, outliers, and normal distribution characteristics. Internal consistency estimates, descriptive statistics, and simple correlations for all variables were then calculated.

RESULTS

Reliability, validity, and descriptive statistics

Participants in the study demonstrated moderately high scores across all three social support measures (See Table 1), with scores consistently ranging from 1 to 1.5 units above the scale midpoint. These findings contradict our initial claims that athletes with disabilities may experience a lack of social support. Moderate scores were also reported for grit, sport engagement, and life satisfaction. Overall, the participant group was relatively homogeneous, as indicated by small standard deviations for most constructs, particularly for perceived social support and life satisfaction.

Most variables were normally distributed, with skewness ranging from –2.11 to 0.08 and kurtosis from –0.97 to 2.58 (Cramer, 1998), except for the variable sport engagement. The internal reliability of the six scales was acceptable, with Cronbach's alphas ranging from 0.76 to 0.95 (Cronbach, 1951) as shown in Table 1. The following sections discuss five significant correlations.

Table 1 Pearson product-moment correlations and descriptive statistics for all variables

	1	2	3	4	5	6
1. Perceived social support	—					
2. Perceived available support in sport	0.393	—				
3. Social cohesion	0.549**	0.093	—			
4. Grit	0.348	−0.054	0.396	—		
5. Sport engagement	0.504*	−0.141	0.440*	0.504*	—	
6. Life satisfaction	0.396	−0.036	0.572**	0.117	0.379	—
M	5.32	3.66	4.47	3.13	4.18	4.78
SD	1.43	0.69	0.96	0.47	0.77	1.48
Skewness	−1.17	0.08	−1.46	−0.16	−2.11	−0.79
Kurtosis	1.10	−0.97	2.58	−0.95	6.64	0.47
Alphas	0.95	0.89	0.90	0.76	0.96	0.89

Note: $N = 24$, M = mean, SD = standard deviation.

*$p < 0.05$, **$p < 0.01$

Correlations

Team cohesion and sport engagement: Results show that higher team cohesion is significantly associated with higher sport engagement ($r = 0.440$, $p < 0.05$). This indicates that athletes who experience stronger team cohesion are more engaged in sport compared to those with lower team cohesion.

Team cohesion and life satisfaction: Higher team cohesion is significantly associated with higher life satisfaction ($r = 0.572$, $p < 0.01$). Athletes with stronger team cohesion reported higher levels of life satisfaction than those with less cohesion.

Perceived social support and sport engagement: Results indicate that greater perceived social support is significantly associated with higher sport engagement ($r = 0.504$, $p < 0.01$). Athletes who receive more social support from their families, friends, and significant others tend to be more engaged in sports compared to those receiving less support.

Team cohesion and multidimensional perceived social support: A significant positive relationship was found between team cohesion and multidimensional perceived social support ($r = 0.549$, $p < 0.01$). This suggests that higher levels of team cohesion are associated with greater perceived social support, as both measure different aspects of social influence.

Sport engagement and grit: Results show that higher grit is significantly associated with higher sport engagement ($r = 0.504$, $p < 0.01$). Athletes who demonstrate greater grit are more likely to be engaged in sports compared to those with lower grit.

DISCUSSION

The primary purpose of our study was to determine the relationships among perceived social support, perceived available support in sport, and social cohesion with grit, sport engagement, and life satisfaction. We found some support for our hypotheses.

First, our findings support the idea that athletes with disabilities who were high in social cohesion strong engagement in their sport-related activities. An individual high in social cohesion enjoys doing activities with other people on a team like playing sports and socializing. Athletes on teams high in cohesion also like participating in sports and having fun with teammates. Therefore, it's reasonable that people who enjoy team social activities report high sport engagement. Researchers have supported this relationship as Bruner et al. (2014) found team sport members with stronger relationships with team members had more team social cohesion. Sport events are competitive situations that can be stressful and challenging and this can be even worse for athletes with disabilities who face more barriers (e.g., inaccessible sport facilities) to practice and competition compared to able-bodied athletes. Team cohesion can significantly and positively predict athlete engagement with a more important role played by group-task social ATG-T (Gu et al., 2022).

Second, athletes with high team cohesion also indicated high life satisfaction. A person high in social cohesion enjoys being part of team social activities with others like going out to eat and they enjoy other people's happiness. Hence, it makes sense that if people enjoy social elements with others, they like their life better and are more satisfied with their life than those who don't enjoy these things. Martin et al. (2015), indicated that athletes with higher resilience were more engaged in sport and, they also reported higher levels of life satisfaction. Team cohesion from groups and teammates can result it more gratitude in athletes that can lead to enhanced life satisfaction (Chen et al., 2015).

Third, we found that athletes who received higher perceived social support reported greater sport engagement compared to athletes who received less social support. This finding is not unexpected as it is plausible that athletes who received social support from their families, friends, and significant others will be more involved in sport compared to athletes who receive less social support. Athletes who receive support from their teammates or coaches are likely to have enhanced sport engagement and well-being (Mellano & Pacewicz, 2023). Social support is a vital external resource that can significantly increase athletes' sport engagement. Implementing a high level of social support for athletes is one of the most important ways to promote their sport engagement. Coaches who have substantial expertise and extensive experience in training and competition can effectively enhance athletes' motivation to participate in training, encourage them to use maximum effort, and improve their level of engagement (Curran et al., 2015). Researchers have indicated that parents or guardians play an equally significant role as coaches in supporting, guiding, and supervising adolescent athletes (Martin & Mushett, 1996; Smoll et al., 2011). In brief, it is quite plausible that having a source of support with whom athletes can share their problems with can lead to greater sport engagement.

Fourth, results of our study suggest that athletes who were higher in team cohesion were also more likely to have stronger perceived social support compared to athletes

who had lower team cohesion. These findings are rationale because both these variables are built on trust. Individuals are more likely to trust people when they perceive strong support from friends, family, and significant others. Similarly, in socially cohesive teams, members trust each other, cooperate, and provide mutual support, thereby reinforcing feelings of support and connectedness. Furthermore, perceived social support improves individuals' emotional well-being by reducing stress, strengthening coping abilities, and fostering psychological resilience. Feeling supported leads to fewer negative emotions and higher life satisfaction. Likewise, in socially cohesive groups, members benefit from emotional support provided by peers, which enhances their psychological well-being and satisfaction within the group.

Fifth, our findings support the idea that grittier athletes showed higher sport engagement compared to less gritty athletes. Based on research studies athletes with greater grit outperform athletes with lesser grit on sport-specific perceptual-cognitive tests and have higher sport engagement (Larkin et al., 2016). This positive correlation is plausible as engagement in sports and having grit both require a strong commitment to goals. Athletic engagement and grit also share underlying mechanisms related to goal pursuit, self-belief, intrinsic drive, and positive psychological emotions (Tedesqui & Young, 2019).

We should also note that some of our variables were unrelated to each other. Grit and life satisfaction were unrelated to perceived available support in sport. Hence, social support in sport doesn't appear to help promote grit or life satisfaction. It is reasonable and not unexpected that social support specific to sport is not likely to influence non sport specific variables like grit and life satisfaction that are impacted by many other factors such as family life, careers, disability issues, etc.

In summary, in this study we examined the relationships among sport and non-sport specific predictors: social support in and outside of sport and team cohesion of grit, sport engagement and athlete satisfaction. We found that athletes who felt supported by family, friends, and coaches demonstrated higher engagement in sport than athletes reporting less support in these areas. Additionally, athletes high in team cohesion reported stronger perceived social support compared to athletes reporting lower team cohesion. Strong team cohesion was also linked to higher life satisfaction. These findings emphasize the importance of encouraging supportive social environments to promote athlete well-being.

While this study primarily examines the relationship between social support and the well-being of athletes with disabilities, it does not consider other significant factors that may impact their well-being, such as economic conditions, access to healthcare, or psychological factors unrelated to social support. Including these aspects could offer a more comprehensive understanding of the influences on these athletes' well-being and should be acknowledged in future research. Additionally, our study measured social support and well-being at a single point in time, which does not account for potential changes in these variables over time. Since data collection occurred during sports training sessions, participants' responses may have been influenced by their immediate psychological or physical state, potentially leading to biased answers regarding social support or well-being. Future research could benefit from employing alternative data collection methods, such as gathering data in different contexts or over multiple time points. Integrating qualitative approaches, like in-depth interviews

or focus groups, could also provide a richer, more nuanced understanding of these relationships.

CONCLUSION

In conclusion, our study highlights the significant role that social factors play in the well-being and engagement of athletes with disabilities. Our findings suggest that strong team cohesion and perceived social support are key predictors of higher sport engagement and life satisfaction. Specifically, athletes who experience greater cohesion within their teams are more likely to be engaged in their sport and report higher life satisfaction. Additionally, athletes who feel supported by their families, friends, and coaches tend to be more involved in their sport.

These findings underscore the importance of fostering supportive and cohesive environments within sports teams, particularly for athletes with disabilities who may face additional challenges. Overall, our research suggests that enhancing social support and team cohesion can lead to meaningful improvements in athlete engagement and overall well-being. By prioritizing these social factors, coaches, families, and sports organizations can contribute to the success and satisfaction of athletes with disabilities.

LIMITATION

First, the small sample size means our findings are likely sample-specific and may not replicate. Second, the correlation nature of our study precludes establishing cause and effect conclusions. However, our results are consistent with theory, logic, and prior able-bodied research, that if athletes have social support in their lives they are likely to have psychological benefits (e.g., life satisfaction). Hence, the significant relationships are suggestive of different social variables having positive effects on psychological variables. It is also important to point out potential bi-directional and reciprocal pathways. For instance, athletes high in sport engagement may attract greater social support from significant others compared to athletes who appear disengaged towards their sport.

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