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Original Article

Gritty, hardy, resilient, and socially supported: A replication study

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ABSTRACT

Background: The present study adds to the knowledge base in positive psychology and disability sport psychology by replicating and extending the research of Martin, Byrd, Watts, and Dent (2015).
Objectives: In the current study we replicated previous findings by predicting life quality and sport engagement using measures of grit, hardiness, and resilience. We also extended the work of Martin et al. (2015) by examining athlete social support.
Methods: Eighty-seven adult (80 men, 7 women) wheelchair rugby athletes with various disabilities (e.g., amputee) participated in the current study. They completed questionnaires at rugby tournaments or on-line assessing grit, hardiness, resilience, social support and life satisfaction and sport engagement.
Results: Overall, the regression equation predicting life satisfaction was significant, $F\ (4,\ 81) = 9.67$, $p < .00$, accounting for thirty-two percent of the variance. One variable, resilience, contributed unique meaningful variance as indicated by its significant beta weight ($\beta = 0.46$, $p < .001$). The regression analyses predicting sport engagement was also significant, $F\ (4,\ 81) = 12.08$, $p < .001$, and predicted 37% of the variance. Grit ($\beta = 0.21$, $p < .05$), social support ($\beta = 0.25$, $p < .01$), resilience ($\beta = 0.23$, $p < .05$), and hardiness ($\beta = 0.27$, $p < .05$) were all significant predictors.
Conclusion: Athletes reporting high levels of resilience reported the highest quality of life. Athletes reporting high levels of grit, resilience, hardiness, and social support were the most engaged in their sport. We also partially replicated the work of Martin et al. (2015).
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Commentaries on replication studies suggest that disciplines that replicate important findings are viewed as rigorous and mature.[1] Unfortunately many social psychology researchers fail to replicate research for various reasons (e.g., replication research lacks prestige).[2,3]

In the current study we replicate the work of Martin, Byrd, Watts, and Dent (2015). The value in replicating Martin et al. (2015) is that we will be able to affirm or undermine their findings, and determine if their results are robust and generalizable or idiosyncratic to their sample.[4] Stated differently, by replicating Martin et al. (2015) we can allay any doubts about their original findings. Furthermore, by replicating Martin et al. (2015) we are also promoting good scientific practice in disability sport psychology research.[5] Finally, Martin et al. (2015) and the current study both use positive psychology constructs (e.g., grit) that are being used more and more in sport psychology research. Hence, the current replication study can potentially add further support and validity to the measures we used and the theories they are based on.

The present study aims to add to the paucity of replication studies done in disability sport psychology. Much research in disability sport has affirmed the value of strong mental skills and coping skills grounded in positive psychology constructs.[6,7] We next briefly remind the reader of the rationale, research questions, and results of the original study by Martin and colleagues that we replicate and report on in the current study.[8] Martin and colleagues (2015) examined whether grit, hardiness, and resilience predicted life satisfaction and sport engagement in seventy-five wheelchair basketball players.

The decision by Martin et al. (2015) to examine if grit, hardiness, and resilience would predict life satisfaction and sport engagement was because the theoretical underpinnings of all three predictors suggested that each psychological construct produces adaptive coping strategies which would contribute to the quality of life and sport engagement.[8–10] Prior to the Martin et al. (2015) study, grit had yet to be studied in disability sport psychology research. Grit is defined by Duckworth and colleagues (2007) as "perseverance and passion for long-term goals".[11] The second predictor used in the Martin et al. (2015) study was resilience. Resilience is defined as

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"effectively adapting to trauma, stress, and adversity"[8] and has previously been found to be important in disability sport (e.g.[12]; [13]). The third predictor, hardiness is present when individuals are committed to a purposeful life and have meaning in their lives. In sports, athletes high in hardiness reported stress related growth when overcoming the setback of an injury[14]. Hardy individuals feel in control of their lives and view setbacks from change and adaption as challenges rather than difficulties.[9]

The Martin et al. (2015) results indicated that athletes who reported higher levels of grit ($\beta = 0.31$, $p < .01$) and resilience ($\beta = 0.22$, $p < .08$) tended to be the most engaged in their sports. Athletes with high levels of hardiness ($\beta = 0.40$, $p < .001$) and resilience ($\beta = 0.21$, $p < .05$) reported the highest quality of life (Martin et al., 2015). The work of Martin et al. (2015) was able to identify the value of positive psychological constructs (e.g. grit, resilience, & hardiness) in predicting both life satisfaction and sport engagement in the disability sport domain. However, Martin et al. (2015) suggested that because their three predictors represented individual personality-based traits, a socially oriented construct, such as social support, might also account for variance over and above grit, hardiness and resilience. Hence, we also wanted to understand if social support would predict life satisfaction and sport engagement.

Researchers have suggested that social support can have a positive influence in sport. For example, in a sample of 293 student college-athletes, perceived social support was found to have a significant mediating effect on sport satisfaction[15]**.** Furthermore, Olympic athletes attest that high levels of social support were necessary for athletic success in sports[16.] In addition to sport satisfaction, perceived and received social support in athletes has been shown to alleviate stress-buffering effects which had a positive effect on sport performance.[17] Last, perceived social support has been shown to have a significant positive effect on athletes' confidence.[18] Taken together, these findings suggest that social support can be a positive influence in sport but hasn't been studied in disability sport in relation to our outcomes.

Given that athletes with a disability have reported battling loneliness (see[15]), it is important to understand the role athletic social support plays in athlete's life satisfaction. Perceived available social support refers to "one's potential access to social support and is a support recipients' subjective judgement that friends, family, team-mates, and coaches would provide assistance if needed".[19] Researchers Rees and Hardy (2000) found that in addition to support with everyday issues, athletes require unique forms of support to help with sport-specific demands such as selection issues and problems in training. For athletes with a disability, they experience these identified stressors, in addition to issues with wheelchair access, wheelchair transportation, and disability facilities in sport venues. Based on these additional stressors, in the present study we sought to explore if perceived social support would predict both life quality in general and sport engagement.

Therefore, the primary purpose of the current study was first to replicate the Martin et al. (2015) study by examining the effects of the three previously supported positive psychological constructs (grit, hardiness, resilience) on sport engagement and life satisfaction. In addition to the replication of these variables, the current study aimed to extend the Martin et al. (2015) study by examining athletic social support (in addition to grit, hardiness and resilience) and if it would predict sport engagement and life satisfaction in a sample of wheelchair rugby athletes.

Finally, the last goal of the current study was to determine, like Martin et al. (2015), if athletes in the current study supported an affirmation model of disability. An affirmation model views disability as part of one's identity and life is not viewed as tragic. The primary focus of the model is on the positive experiences and social identities of people with a disability.[20] For example, researchers Smith and colleagues (2016), in their study on identity, found that athletes with a disability would describe themselves as a disabled athlete to demonstrate the pride they have in their disability and for who they are as a person.[21,22] Moreover, the affirmation model also refutes negative assumptions about athletes with a disability.[21] Similar to Martin et al. (2015) we expected athletes in the current study to report high mean levels of our positive psychology-oriented constructs (i.e., hardiness, life satisfaction, etc.) Finding high mean levels would both replicate Martin et al. (2015) and provide further evidence of an affirmation model. To summarize, our major purpose of the present study was to replicate and expand on the previous research of Martin et al. (2015) to see if grit, hardiness, and resilience predicted life satisfaction and sport engagement. Additionally, we wanted to see if the additional construct of perceived social support for athletes also added variance to predicting life satisfaction and sport engagement. We hypothesized that all four of our predictor variables would positively predict life satisfaction and sport engagement**.** Last, we hypothesize that the results of the present study will replicate the findings in the original study by showing that wheelchair rugby athletes espouse similar beliefs to wheelchair basketballers.[24]

Method

Measures

Demographic Scale. The demographic information provided by athletes included age, gender, ethnicity, team name, disability condition, acquired or congenital disability, years of playing experience, and classification. All scales assessing the psychological variables are described next and can also be found in Table 1.

Grit. To measure grit, participants were completed the 8-question Short Grit Scale.[10] Participants responded to each question using a 5-point Likert scale (1 = *not at all like me*, 5 = *very much like me*). The two subscales in the scale are perseverance of effort and consistency of interest. Four items of the scale require reverse scoring. Only the total scores were used in the present study. A sample from the perseverance-of-effort subscale is "Setbacks don't discourage me" and for the consistency of interest subscale "I often set a goal but later choose to pursue a different one." Adequate

Table 1
Questionnaires.

Scale	Number of Items	Sample Question	Scoring
Demographics	9	"Years of experience in wheelchair rugby"	
Grit	8	"Setbacks don't discourage me"	5-point Likert scale (1 = *not at all like me*, 5 = *very much like me*).
Resilience	10	"Can stay focused under pressure"	5-point Liker scale (0 = *not at all true*, 4 = *true nearly all the time*).
Hardiness	15	"Most of my life gets spent doing things that are meaningful"	4-point Likert scale (0 = *not at all*, 3 = *completely true*).
Life Satisfaction	5	"I am satisfied with my life"	7-point Likert Scale (1 = *strongly disagree*, 7 = *strongly agree*).
Sport Engagement	16	"I am determined to achieve my goals in sport"	5-point Likert scale (1 = *almost never*, 5 = *almost always*).
Social Support	22	"Cheer you up"	5-point Frequency scale (1 = *not at all*, 5 *seven or more times*).

internal consistency for the subscales has been established in previous work ($\alpha = 0.73$-0.83).[8,10]

Resilience. To assess resilience, participants completed the 10-item Connor-Davidson Resilience Scales,[25] which was an adaption of the 25-item CD-RISC.[7] Participants responded to the 10 items using a 5-point Likert scale (0 = *not at all true*, 4 = *true nearly all the time*). A sample item from this scale was "Can stay focused under pressure." All items scores were summed and divided by the number of items to obtain the overall resilience score. Good reliability ($\alpha = 0.85$) and validity were established for the scale.[8,23]

Hardiness. To measure hardiness, participants completed the revised Norwegian hardiness scale (Dispositional Resilience Scale.[26] Participants responded to the 15 scale items using a 4-point Likert scale (0 = *not at all*, 3 = *completely true*). The scale is comprised of three subscales: commitment, challenge, and control. Only the total score was used in the current study. A sample item from the commitment subscale was "Most of my life gets spent doing things that are meaningful." A sample item from the control subscale was "I don't think there's much I can do to influence my own future." A sample item for the challenge subscale was "I enjoy the challenge when I have to do more than one thing at a time." Of the fifteen items used in the scale, six required reverse scoring. The scale has demonstrated adequate reliability ($\alpha = 0.62$-0.79).[8,26]

Life Satisfaction. To measure life satisfaction, participants completed the Satisfaction with Life Scale.[27] Participants responded to the five items on the scale using a 7-point Likert Scale (1 = *strongly disagree*, 7 = *strongly agree*). A sample item was "I am satisfied with my life." All items were summed and divided to give a total life satisfaction score. Good reliability ($\alpha = 0.87$) has been established for the scale [27,8.]

Sport Engagement. To assess sport engagement, the 16-item Athlete Engagement Questionnaire was used.[28] The scale is comprised of four subscales (vigor, dedication, confidence, and enthusiasm) with four items per subscale. A sample item from the vigor subscale was "I feel really alive when I participate in sport." A sample item from the dedication subscale was "I am determined to achieve my goals in sport." A sample item for the confidence subscale was "I believe I am capable of accomplishing my goals in sport." A sample item for the enthusiasm subscale was "I feel excited about sport." The total score was used in this study. Athletes responded to items using a 5-point Likert scale (1 = *almost never,* 5 = *almost always*). Factor structure and fit indices were confirmed through a confirmatory factor analysis and revealed satisfactory validity and reliability ($\alpha = 0.87$) [28,8.]

Social Support. To measure athletes perceived social support, the 22-item Athletes' Received Social Support Questionnaire (ARSQ)[29] was administered. The scale is comprised of four subscales (emotional support, esteem support, informational support, tangible support). A sample item for the emotional support subscale was "Cheer you up." A sample item for the esteem support subscale was "Emphasize your abilities." A sample item for the informational support subscale was "Give you advice about what to do." A sample item for the tangible support subscale was "Help manage your training sessions." Participants responded to each of the items using a 5-point Frequency scale (1 = *not at all,* 5 *seven or more times*). Good reliability for the subscales ($\alpha = 0.90$-0.94) and validity have been established.[29]

Procedure

We received permission to conduct our study from the University Internal Review Board, the tournament organizers, and the athletes.

In-Person Data Collection. With the permission of the athletes and coaches, athletes were administered paper surveys (identical to the online version) by a member of our research team. Athletes completed the scales in between competition games which was monitored by the first author. Some athletes ($n = 7$) declined to partake in the study. On average, participants completed the survey in approximately 15 min.

Online Data Collection. To increase the study sample size, we sent our survey out online (identical to our paper surveys). We contacted head coaches of wheelchair rugby teams from around the world via an email which contained study information and the study survey link. Coaches were asked to send the link on to their athletes. Prior to engaging in the study, participants were presented with the potential risks and benefits of the study and were asked to provide their informed consent. Of the athletes that agreed to participate, some ($n = 11$) did not complete all the study measures and were therefore removed from the study analyses.

Data analysis

To detect a medium effect size, results of a power analysis using G*Power 3.1 [30] suggested a sample size of 74 was sufficient for multiple regression analyses with four predictors and a power of 0.95. Therefore, the current sample size was deemed appropriate. Data was screened for missing data and normality. No data was missing at the item level.

Descriptive statistics, alpha coefficients and correlations (Table 3) were calculated followed by two multiple linear regression analyses (see Tables 4 and 5). Prior to performing the regression analyses, data was checked for multicollinearity. Following the

Table 2
Demographics.

Characteristic	N (%)
Gender	
Female	7 (8%)
Male	80 (92%)
Age	
18–24 years	13 (15%)
25–34 years	26 (30%)
35–44 years	32 (36%)
45–54 years	15 (17%)
55–64 years	1 (2%)
Experience	
1–10 years of experience	58 (68%)
11–20 years of experience	25 (28%)
21 or more years of experience	4 (4%)
Disability Category	
Amputation	6 (7%)
Spinal Cord Injury	60 (70%)
Cerebral Palsy	9 (9%)
Other	12 (14%)
Reported Disability	
Acquired	66 (76%)
Congenital	17 (19%)
Missing	4 (5%)
Race	
White	63 (72%)
African American	23 (26%)
Other	1 (2%)
National Distribution	
USA	49 (53%)
Canada	18 (21%)
United Kingdom	8 (9%)
New Zealand	7 (8%)
Sweden	2 (3%)
Finland	1 (2%)
Netherlands	1 (2%)
Denmark	1 (2%)

Table 3
Pearson product-moment correlations and descriptive statistics for all variables.

	1	2	3	4	5	6
1 Grit	–					
2 Resilience	.41**					
3 Hardiness	.24*	.48**	–			
4 Athlete support	-.12	.09	.18			
5 Life satisfaction	.25*	.55**	.38**	.13**	–	
6 Sport engagement	.33*	.46**	.47**	.29**	.39**	–
M	3.78	4.22	1.92	2.55	4.92	4.51
SD	.73	.61	.22	.94	1.34	.35
skewness	-.34	−1.15	.05	.64	-.82	-.45
kurtosis	-.25	1.58	-.23	-.14	.40	-.30
alphas	.80	.88	.75	.96	.86	.85

*$p < .05$. **$p < .001$.

guidelines of Hair and colleagues (1995), multicollinearity did not occur in the study as tolerance was greater than 0.10 for all the variables used in the study and the variance inflation factor (VIF) was under ten for all study variables.[31]

Results

Participants

Participants were 87 adult athletes (see Table 2). Breakdown by gender was 92% male ($n = 80$) and 8% female ($n = 7$) partaking in either a two-day Midwest wheelchair rugby tournament ($n = 35$) or who completed the study online ($n = 52$). A total of 7 athletes did not complete the study at the tournament which resulted in an 83% return rate. Athletes ranged in age from 19 to 61 years (M age = 35.94 year, $SD = 9.26$) and averaged 8.4 years of playing experience (range = 1–28 years). Athlete's wheelchair rugby classification ranged from 0.5 to 4.0. Disability categories and number of participants were as follows: amputation ($n = 6$), spinal cord injury ($n = 60$), cerebral palsy ($n = 9$), other ($n = 12$). Participants also reported acquired disabilities ($n = 66$), congenital ($n = 17$), missing ($n = 4$). Racial distribution was as follows: 72% White, 2% African American, 26% Other. Nationality distribution was as follows: USA ($n = 49$), Canada ($n = 18$), United Kingdom ($n = 8$), New Zealand ($n = 7$), Sweden ($n = 2$), Finland ($n = 1$), Netherlands ($n = 1$), Denmark ($n = 1$).

Reliability, validity, and descriptive statistics

Descriptive statistics, alpha coefficients, correlations, and skewness and kurtosis can be seen in Table 3. Based on the values of skewness and kurtosis and the screening of our variables suggested that even distribution. Using the value of asymmetry and kurtosis of −2 and +2, suggested all of the study variables are normally distributed.[31,32] Furthermore, all the alphas are above the recommended cutoff value of .70[33]. To test evidence of convergent validity, we also assessed the correlations between variables to check that those that should be related conceptually, were in fact related. Similar to the results from Martin et al. (2015), we found positive correlations between grit, hardiness, and resilience ($rs = 0.41, 0.24, 0.48$.), thus confirming convergent validity.

Correlation and regression analyses

Study variables were positively correlated in the expected directions, though not all were significant. Athlete social support was not significantly related to grit ($r = -12$) (See Table 3).

The regression equations (see Tables 4 and 5) predicting life satisfaction F (4, 81) = 9.67, $p < .001$ and sport engagement F (4, 81) = 12.08, $p < .001$, were both significant. The regression analyses using life satisfaction as the dependent variable, accounted for approximately 32% of the variance, with only one significant predictor variable; resilience ($\beta = 0.46$, $p < .001$). Athletes were more resilient in the present study ($M = 3.78$) than the original study ($M = 3.36$) by Martin and colleagues (2015). The second regression analyses using the dependent variable of sport engagement predicted 37% of the variance and was predicted by grit ($\beta = 0.21$, $p < .05$), athlete social support ($\beta = 0.25$, $p < .01$), resilience ($\beta = 0.23$, $p < .05$), and hardiness ($\beta = 0.27$, $p < .05$). This result indicates that athletes who had social support, who were gritty, resilient, and hardy, were more engaged in the sport they were playing compared to athletes lower in grit, resilience, hardiness and social support.

Discussion

The primary purpose of the present study was to understand if grit, hardiness, resilience, and the added variable of athlete social support, would predict life satisfaction and sport engagement in wheelchair rugby athletes. As a replication study, we aimed to

Table 4
Multiple regression results predicting sport engagement.

Step	Variable	R	R^2	ˆR^2	F	p	ˆF	p	Coefficients				
									b	SE (b)	β	t(x)	p
1	Grit	.61	.37	.34	$F(4, 81) = 12.08$	$p < .001$	12.08	.05	.10	0.05	.21	2.12	.04*
	Hardiness								.42	0.16	.27	2.61	.01*
	Resilience								.13	0.06	.23	2.12	.04*
	Athlete support								.09	0.03	.25	2.71	.008*

*$p < .05$. **$p < .001$.

Table 5
Multiple regression results predicting life satisfaction.

Step	Variable	R	R^2	ˆR^2	F	p	ˆF	p	Coefficients				
									b	SE (b)	β	t(x)	p
1	Grit	.57	.32	.29	$F(4, 81) = 9.67$	$p < .001$	9.67	.05	.06	0.19	.03	.33	.75
	Hardiness								.89	0.63	.15	1.41	.16
	Resilience								.99	0.24	.46	4.08	.001**
	Athlete support								.09	0.14	.06	.64	.53

*$p < .05$. **$p < .001$.

explore if our study would yield results consistent with the results of Martin et al. (2015) original study. Therefore, we report on our results and simultaneously compare them to the Martin et al. (2015) results. Overall, we found support for some of our hypotheses.

First, resilience, predicted 32% of the variance in life satisfaction and was the only significant predictor of life satisfaction ($\beta = 0.48$, $p < .001$). This moderate effect size supports the concept of resilience, which is described as the ability to cope with major life events and stressors (Connor & Davidson, 2003). Athletes who have a disability often experience various challenges through impairment related effects (e.g. mobility limitations, changes to activities of daily living) and from social situations such as discrimination. Therefore, to cope effectively with daily stressors and hardship requires one to be resilient in order to be satisfied with their life. Resilience might have been the only significant predictor of life satisfaction in the present study due to its narrow definition, which in part implies that life is not satisfying if an individual is unable to cope with the stressors of life. For example, if a person is unable to bounce back from adversity, such as breaking up with a loved one and the associated stress that accompanies the event, then the individual will not be satisfied with their life as they are unable to cope and adapt to the stress. This study replicated the Martin et al., 2015 findings of resilience predicting life satisfaction, with a stronger effect size (current study $\beta = 0.48$ compared to 2015 study $\beta = 0.21$). Interestingly, we did not fully replicate the findings of the original work of Martin et al. (2015) as hardiness was not a significant predictor in the present study and was significant with a strong effect in the 2015 study ($\beta = 0.40$).

All the predictors of sport engagement provided significant results and contributed to 37% of the variance. First, grit which is related to passion and perseverance towards goals, predicted athlete sport engagement ($\beta = 0.21$, $p < .05$). This finding and the small effect size suggests that when one is gritty and wanting to persevere in achieving their sporting goals, they are more engaged in their sport. This drive and determination to reach such goals, conceptualized as grit, explains their ongoing engagement in their sport. This finding supports the link recently found between grit and sport engagement in able-bodied athletes.[34] This finding replicates the relationship first established by Martin and colleagues, who found a moderate effect ($\beta = .31$) between grit and sport engagement.

Resiliency and hardiness were also significant predictors of sport engagement, both with small effect sizes ($\beta = 0.23$, $p < .05$) and ($\beta = 0.27$, $p < .05$). It is possible that when an athlete is struggling with stressors during a sporting competition, they are more resilient and hardier because of setbacks. For example, in wheelchair rugby an athlete may give up possession of ball to the opposition and because of this error, the athlete is more engaged to succeed in the game and therefore more *resilient* throughout competition as a way to make amends for their previous error. Alternatively, when behind in the game and facing defeat, the wheelchair athlete may take on the challenge of being behind as an opportunity to excel and lead the team to victory, and therefore *through hardiness* be more engaged in their sport. These findings only partially replicate those found by Martin et al. (2015), who did not find a significant relationship between hardiness and sport engagement but did find a comparable small effect between resiliency and sport engagement ($\beta = .22$).

Next, the new predictor variable of social support also significantly accounted for variance in sport engagement ($\beta = 0.25$, $p < .05$), with a small effect observed. Athletes who felt like they had social support in and outside of sporting competition, reported higher levels of engagement in their sport. As such, it appears that when an athlete feels supported and connected to others, they likely feel enthused and invigorated to engage themselves in their sport. Other researchers have also found that social support can contribute significantly to athlete's well-being in sports.[35]

Finally, there is an interesting pattern in the present study in relation to the original study by Martin et al. (2015). First, similar to Martin et al. (2015), support was found for resilience predicting life satisfaction and sport engagement. Second, additional support was found for hardiness, as it predicted sport engagement, just as in Martin et al. (2015). Next, similar to the original study, grit did not predict life satisfaction, but did predict sport engagement. Interestingly, the present study did not replicate the original findings by showing that hardiness predicted life satisfaction. Last, athlete social support provided new findings, where social support was related to sport engagement but not life satisfaction.

A secondary purpose of the present study was to provide further support for an affirmation model. Based on the descriptive statistics, we determined if participants had positive self-perceptions on the psychological constructs used in the present study. For example, on a 5-point Likert scale, the mean score for grit in the present study was 3.78 which was similar to mean score of the original work of Martin et al. (2015). In general, all five measures used in the study have mean scores that were moderate to strong in range, which was consistent with those reported by Martin and colleagues. Specifically, and comparable to Martin et al. (2015), the highest mean score in the present study came from sport engagement. Thus, suggesting that participants in the present study were confident and enthused athletes who participate in sports with fervor and zeal. As the scores in the present study were high on the positive psychology concepts used in the study, it can be inferred that our study participants find connection and meaning in their life and sport. Taken together, through this study we have been able to provide further support for an affirmation model and had moderate success in replicating the findings of Martin et al. (2015). In addition to replicating previous relationships, this study also extended the research in observing that individuals feel more engaged in their sport when they have a social support system.

Limitations of this study should be recognized. Like Martin et al. (2015), resilience was not measured after an aversive event. Some researchers state that measuring resilience without an aversive event is flawed and provides limited value.[36] Lastly, the study sample was comprised of athletes in one sport. Future researchers should look to address other wheelchair sports.

In conclusion, future work is needed to further understand the variables studied in the present study. For example, as only the second study to explore grit in wheelchair athletes, researchers should look to expand on the current research on grit in athletes with a disability. Furthermore, as one of the first studies to explore social support in relation to life satisfaction and sport engagement in athletes with a disability, future research should explore other social support concepts such as team cohesion. Feeling part of a team could play an important part in the sport experience and alternatively sport engagement and life satisfaction. The results to the present study support clinical sport psychologists and coaches who are looking to build positive-psychology concepts such as resilience and grit in their work with athletes with a disability. Finally, athletes with disabilities pursue their sport goals within the larger disability culture. Hence, we hope that our findings in support of the affirmation model may also create awareness among the public that many individuals with disabilities have positive disability identities and ultimately create greater social acceptance for all individuals with disabilities.

Conflicts of interest

The authors have no conflicts of interest to declare and the research has not been previously published.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.dhjo.2019.100839.

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