



Heriot-Watt University
Research Gateway

Only my group will do: Evidence that social support protects athletes from burnout when they identify with those who provide it

Citation for published version:

Murray, RM, Hartley, C & Coffee, P 2023, 'Only my group will do: Evidence that social support protects athletes from burnout when they identify with those who provide it', *Psychology of Sport and Exercise*, vol. 69, 102508. <https://doi.org/10.1016/j.psychsport.2023.102508>

Digital Object Identifier (DOI):

[10.1016/j.psychsport.2023.102508](https://doi.org/10.1016/j.psychsport.2023.102508)

Link:

[Link to publication record in Heriot-Watt Research Portal](#)

Document Version:

Publisher's PDF, also known as Version of record

Published In:

Psychology of Sport and Exercise

Publisher Rights Statement:

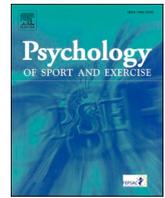
© 2023 The Authors.

General rights

Copyright for the publications made accessible via Heriot-Watt Research Portal is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

Heriot-Watt University has made every reasonable effort to ensure that the content in Heriot-Watt Research Portal complies with UK legislation. If you believe that the public display of this file breaches copyright please contact open.access@hw.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.



Only my group will do: Evidence that social support protects athletes from burnout when they identify with those who provide it

Ross M. Murray^{a,*}, Chris Hartley^b, Pete Coffee^c

^a Department of Psychology, Faculty of Natural Sciences, University of Stirling, United Kingdom

^b Faculty of Health Sciences and Sport, University of Stirling, United Kingdom

^c Department of Psychology, School of Social Sciences, Heriot-Watt University, United Kingdom

ARTICLE INFO

Keywords:

Social identification
Sport drop out
Moderation
Perceived support

ABSTRACT

Perceived availability of social support can reduce symptoms of burnout in athletes. As such, it is important to understand the circumstances under which perceived social support is most effective. Social influences such as strength of social identification with a particular group or identity are believed to play an important role in the provision and effectiveness of social support. Across two studies, we investigate whether social identification in a sport can strengthen the protective association between perceived social support and burnout. In Study 1, athletes completed questionnaires assessing perceptions of social support availability, social identification, and burnout. In Study 2, participants completed the same measures at systematic time points across a six-month timespan. In both studies, participants' levels of social identification moderated the association between perceived social support and burnout, whereby there was a stronger negative relationship between social support and burnout when participants reported higher levels of social identification in their sport. These results indicate that social identity may play an integral role in improving the efficacy of social support on burnout.

Sport participation provides a range of benefits throughout adulthood; however, many athletes drop out of sport during their lifespan (Jenkin et al., 2017; Murray et al., 2021). Burnout is one reason that contributes to sport dropout (Isoard-Gauthier et al., 2016). In the context of sport, burnout is a syndrome typically consisting of a reduced sense of accomplishment, a devaluation towards sport, and physical and psychological exhaustion (Raedeke & Smith, 2001). Athletes often experience burnout stemming from high levels of stress associated with the sport context (Goodger et al., 2007). Beyond stress levels, social influences are instrumental in conditioning the extent to which athletes experience burnout. Specifically, high levels of social support have been negatively associated with burnout (Eklund & DeFreese, 2015; Gustafsson et al., 2017; Hartley & Coffee, 2019) and it has been theorized that the potency of social support's impact on burnout will be influenced by the extent to which the provider and recipient of support share a common identity (Hartley et al., 2020). Underpinned by social identity theory, the purpose of this study was to examine whether the association between social support and burnout is conditioned by social identification.

Perceived social support (herein referred to as support) refers to the perception of support available from one's social network such as

friends, family, team-mates, and coaches who may provide assistance if needed (Rees & Freeman, 2010). Consistent with the work of Rees and colleagues (Rees & Freeman, 2010), perceptions of support consist of four dimensions: emotional (e.g., making an athlete know they are loved and cared for), esteem (e.g., bolstering and reassuring an athlete's sense of competence), informational (e.g., providing guidance and instruction to an athlete), and tangible support (e.g., providing instrumental assistance, such as the resources and conditions necessary for athletic functioning). These dimensions are often highly intercorrelated and can be aggregated to provide a global measure of perceived social support (Raedeke & Smith, 2004; Shang & Yang, 2021).

Support is often associated with lower levels of burnout in sport (Cresswell, 2009), and may be considered an effective resource for reducing the risk for developing burnout (Eklund & DeFreese, 2015; Gustafsson et al., 2017). This is because support may inhibit athletes' reduced sense of accomplishment and their tendency to devalue sport participation (Hartley & Coffee, 2019). However, the social nature of sport means that the effects of support are likely to vary significantly depending on a range of social influences, such as if the support is associated with a trusted group member, and/or support is provided within normative social conventions for the group (e.g., a hand-tap after

* Corresponding author.

E-mail address: r.m.murray@stir.ac.uk (R.M. Murray).

points in doubles tennis is commonplace and normative to the setting). The social identity approach (Haslam et al., 2020) offers a theoretical framework to examine how social support may result in positive, negative, or indifferent outcomes in sport (Hartley et al., 2020).

Social identification focuses on the cognitive and evaluative aspects of identification with a group (Doosje et al., 1995). This means that individuals who identify with a group think of themselves as part of the group, and gain self-esteem through group membership (Ellemers et al., 2002). Central to this theory, is that our perceptions of the world are structured by the groups we belong to, to the extent that our social identity with a group can shape how we perceive and appraise events. In the sport context, higher levels of social identification are associated with a range of beneficial outcomes pertinent to burnout, including higher levels of motivation (Murray et al., 2022), commitment (Martin et al., 2018), and lower dropout (Murray & Sabiston, 2022). Beyond sport, there is evidence that social identification with a group negatively relates to burnout (Steffens et al., 2014). As such, it is possible that athletes who identify with their team experience lower levels of burnout compared to athletes who do not identify with their team. However, beyond this main effect of social identification on burnout, recent research indicates that levels of social identification in sport may not directly protect against burnout, instead Glandorf and colleagues posit that social identity may act as a moderator of the relationship between support and burnout (Glandorf et al., 2022; Hartley et al., 2022).

Ones' social identification in sport can impact the way athletes appraise events (Coffee et al., 2020), and can underpin the provision and receipt of social support (Levine et al., 2005; Rees et al., 2015), such that an athlete is more likely to value and trust the support from a fellow in-group member (Hartley et al., 2022). Specifically, social identification can impact individuals' appraisal of social support by offering the support provider and recipient a common framework that can facilitate a more harmonious support exchange process (Haslam et al., 2012). For example, before completing challenging mathematical exercises, individuals are more likely to feel comforted by support when the information comes from an individual with whom they identify (Haslam et al., 2004a). This is because the support recipient and provider share the same understanding of the world, and thus the provider is believed to have the individual's interests and concerns at heart (Nicholson et al., 2011). Evidence that social identity can impact an individual's appraisal within a sport setting was observed by Murray et al. (2020) whereby, an athlete's appraisal of their attributions was significantly more impactful on their collective efficacy when they reported higher levels of identification with their team. This can be exemplified as a support-social identification interaction, whereby an athlete who strongly identifies as a runner will likely value support from a fellow runner more than support from someone who competes in a different sport (e.g., fencing, golf, football, etc.). That is, the underlying social identity as 'runners' may allow the athletes to experience the adaptive consequences of social support. In line with social identity theorizing, social identification may provide individuals with a common ground for effective social support to occur (Hartley et al., 2022; Haslam et al., 2012), whereby if an athlete identifies with his coach, technical advice on his serve (i.e., informational support) may be better received and interpreted compared to if he does not share an identity with the coach. However, to the best of our knowledge, the research on this topic in sport, and psychology more generally, has been largely exploratory and cross-sectional. As such, there is a need to examine the nature of these relationships more systematically and rigorously.

Across both cross-sectional and longitudinal studies, our research aimed to examine the nature of the relationship between support and burnout at high and low levels of social identification in sport. After controlling for the effects of stress on burnout, it was hypothesized that (1) support would be negatively correlated with burnout, (2) social identification would be negatively correlated with burnout and that (3) social identification would moderate the relationship between perceived support and burnout, whereby, the negative relationship between

support and burnout would be stronger at higher levels of social identification compared to lower levels of social identification. In Study 1 we tested these hypotheses cross-sectionally, and in Study 2 we tested these hypotheses at three points over the course of a 6-month timespan.

1. Study 1 method

1.1. Participants and procedure

Power analysis conducted using the *pwr* package in R indicated a sample of at least 434 would be sufficient to detect a small effect size of 0.04 with 6 parameters, power set to 0.90 and a significance threshold of 0.05. After obtaining ethical approval from the General University Ethics Panel at the University of Stirling, participants were recruited opportunistically and through snow-ball sampling with the use of recruitment posters and online announcements. The sample consisted of 444 athletes (278 male) ranging in age from 14 to 68 years (M age = 25.89 years, SD = 10.32), partaking in a range of 45 different sports, including 25 individual sports. Predominant sports were tennis (n = 23), rugby (n = 28), and golf (n = 71). The competitive levels of participants ranged from recreational (n = 66), club (n = 126), regional (n = 97), national (n = 106), to international standard (n = 49). After informed consent had been provided, participants were either provided with an email link to the questionnaire or completed a paper-and-pencil version.

1.2. Measures

Perceived support. The 16-item Perceived Available Support in Sport Questionnaire (the PASS-Q; Freeman et al., 2011) was used to assess perceived support. The PASS-Q has demonstrated good reliability and validity indices across independent samples (Boat & Taylor, 2015; Freeman et al., 2011). The stem for the PASS-Q is: "Please indicate to what extent you have these types of support available to you". Participants were required to respond on a 5-point Likert scale, ranging from 0 (*not at all*) to 4 (*extremely*). The PASS-Q has been used as a global and dimensional (emotional, esteem, informational, and tangible) measure of perceived social support (Hartley & Coffee, 2019; Shang & Yang, 2021). Because there were no specific hypotheses pertinent to dimensional associations, we examined perceived social support as a global measure. In the current study the PASSQ demonstrated strong internal consistency (Cronbach's α = .93).

Social identification. Given there were no a-priori reasons to expect different effects on the individual components of social identification (self-investment, solidarity, satisfaction, and centrality; Doosje et al., 1995), social identification was assessed using the recommended Four-Item measure of Social Identification (FISI; Postmes et al., 2013). The FISI is an adaptation of the scale reported by Doosje et al. (1995), and shows good cross-sectional and longitudinal internal-reliability, and correlates highly with each of the components in Leach and colleagues' (2008) 10-item social identification scale (Reysen et al., 2013). Further, the FISI is aligned with the cognitive evaluative aspects of group identification (Doosje et al., 1995) and therefore aligns well with this theoretical framework. The reference group for social identification was specified on the FISI as: "others in my sport" (e.g. "I identify with others in my sport"; item 1) and "a member of my sport" (e.g. "I see myself as a member of my sport"; item 2). Participants were required to indicate their level of agreement to four statements by responding to a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Item responses were averaged to create a single score of social identification. The FISI demonstrated strong internal consistency in the current sample (Cronbach's α = .90).

Burnout. Athlete burnout was assessed using the 15-item Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001), which has demonstrated good construct and structural validity in independent samples (Cresswell & Eklund, 2006; Raedeke & Smith, 2009). The stem for the ABQ is: "Please indicate the extent to which you are currently

experiencing each feeling". Participants were required to respond on a 5-point Likert scale, ranging from 1 (*almost never*) to 5 (*almost always*). In line with previous research (DeFreese & Smith, 2013) athlete burnout was conceptualized as the composite score of three subdimensions (reduced sense of accomplishment, a devaluation towards sport, and physical and psychological exhaustion). The ABQ demonstrated strong internal consistency in the current sample (Cronbach's $\alpha = .90$).

Covariates. Participants were asked to report their age and their sex before completing the study questionnaires. Participants were also asked to indicate the degree of stress experienced, measured using four sources of stress commonly drawn upon within the sport literature (Freeman & Rees, 2010; Hartley & Coffee, 2019). The stem for each item was: "Please indicate how stressed you felt as a result of the following situations over the past two weeks". Participants were asked to respond on a 5-point Likert scale ranging from 1 (not at all) to 5 (a lot). Item responses were summed to create a total score of stress. Cronbach's alpha for the stress scale demonstrated good internal reliability ($\alpha = .81$). These variables were included as covariates in the analyses.

1.3. Analyses

R version 4.2.0 was used for all analyses. Descriptive statistics were examined through means, standard deviations, and Pearson correlation coefficients (Table 1). Three linear models were conducted to examine whether burnout relates to covariates, social support, social identification, and the interaction between social support and social identification. The first model included covariates (age, sex, and stress) as predictors of burnout. The second model included the covariates and the main effects of social support and social identification. Finally, the third model included the predictors in the first two models and the interaction between social support and social identification. To understand the nature of significant interactions, follow up simple slope analyses were conducted (Robinson et al., 2013)

2. Study 1 results

2.1. Descriptive results

Descriptive statistics are reported in Table 1. Overall, older participants typically reported higher levels of stress and lower levels of social support. Females reported higher levels of stress compared to males, but no sex differences between support, identification, or burnout were observed.

2.2. Main analysis

Analysis of covariates on burnout indicated age was not significantly associated with burnout ($B = -.003, SE = .13, p = .35$), however, females experienced significantly higher levels of burnout than males ($B = -.18, SE = .07, p = .01$). Higher levels of stress ($B = .23, SE = .03, p < .01$) were positively associated with burnout. Covariates explained 9% of the variance in burnout $R^2 = .10$. Beyond the effects of covariates, social support ($B = -.16, SE = .04, p < .01$) and social identification ($B = -.25, SE = .02, p < .01$) were significantly negatively associated with burnout.

Table 1
Study 1 means, standard deviations, and correlations.

Variable	M	SD	α	1	2	3	4	5	6
1. Age (years)	25.89	10.32							
2. Sex	1.37	0.48		-.05					
3. Level	2.88	1.24		-.09	-.11*				
4. Stress	2.56	0.93	.81	-.14**	.18**	.14**			
5. Support	3.51	0.73	.93	-.28**	.06	.09	.16**		
6. Social Identity	5.63	1.05	.90	-.09	-.04	.17**	.01	.34**	
7. Burnout	2.44	0.71	.90	-.08	-.06	-.03	.29**	-.21**	-.41**

Note. M and SD are used to represent mean and standard deviation, respectively. * indicates $p < .05$. ** indicates $p < .01$.

Social support and social identification explained an addition 20% of the variance in burnout $R^2 = .30$. In the final model, levels of social identification significantly moderated the relationship between support and burnout ($B = -.08, SE = .03, p = .02$), whereby at lower levels of social identification there was no significant association between support and burnout ($B = -.07, SE = .05, p = .15$). However, at higher levels of social identification, there was a significant negative association between support and burnout ($B = -.25, SE = .06, p < .01$). The interaction term explained an additional 1% of the variance in burnout $R^2 = .31$. Models are detailed in Table 2 and the interaction is illustrated in Fig. 1. A sensitivity analysis examining reversed associations indicated no significant moderation between support and burnout on social identity ($B = .002, SE = .09, p = .98$).

3. Study 1 discussion

The results of Study 1 indicate that social support and social identification relate to burnout in sport. These results are consistent with previous studies which suggest that support is an integral part of reducing/preventing burnout in sport (e.g., DeFreese & Smith, 2013). Further, the current results indicate social identification may play an important role in this relationship, whereby athletes who identified strongly with individuals from their sport were more likely to be protected from burnout when they perceived higher levels of social support. However, this study examined these associations at one point in time. Within Study 2, we examined whether these associations are stable across a six-month timespan.

4. Study 2 method

4.1. Participants

Power analyses were conducted based on the effect size observed in Study 1 ($R^2 = .31$) using the sjstats package in R (Ludecke, 2019). With the power set to 0.9 and an alpha .05, analyses indicated 483 observations across three waves would detect a medium effect size of 0.31. The final sample consisted of 320 athletes (145 male) ranging in age from 18 to 68 years (M age = 25.78 years, $SD = 10.67$), partaking in a range of 39 different sports, including 25 individual sports. Predominant sports were rugby ($n = 81$), netball ($n = 93$), and basketball ($n = 51$). The competitive levels of participants ranged from recreational ($n = 39$), club ($n = 118$), regional ($n = 60$), national ($n = 53$), to international standard ($n = 50$). Participants completed measures at three measurement waves across a six-month timespan. Of the 320 athletes who participated in the study, 61 completed all three measurement waves, 74 completed two waves, and 185 completed one wave. In total, there were 516 observations, however, 13 individuals did not provide complete information, leaving an analytic sample of 499 observations across 307 individuals.

4.2. Measures

The measures used to examine stress, social support, social identification, and levels of burnout in Study 1 were also used in Study 2.

Table 2
Study 1 and Study 2 Regression results using burnout as the criterion.

Predictors	Study 1			Study 2		
	Estimates	CI	p	Estimates	CI	p
(Intercept)	2.44	2.38–2.51	<0.001	2.34	2.27–2.40	<0.001
Model 1						
Age	–0.00	–0.01 – 0.00	0.350	–0.01	–0.01–0.00	0.013
Sex [Female]	–0.18	–0.31–0.05	0.008	0.03	–0.10 – 0.17	0.621
Stress	0.23	0.16–0.30	<0.001	0.16	0.10–0.22	<0.001
Model 2						
Support	–0.16	–0.25–0.08	<0.001	–0.14	–0.18–0.04	0.001
Social Identity	–0.25	–0.31–0.19	<0.001	–0.15	–0.20–0.10	<0.001
Model 3						
Support * Social identity	–0.08	–0.15–0.01	0.017	–0.04	–0.09 – 0.00	0.052
Random effects						
				σ^2	0.13	
				$\tau_{00\ id}$	0.20	
				ICC	0.62	
				N _{id}	307	
Observations	434			Observations	499	
R ² /R ² adjusted	0.315/0.305			R ² /R ² conditional	0.206/0.696	

Note. A significant *b*-weight indicates the semi-partial correlation is also significant. *b* represents unstandardized regression weights, CI represents 95% confidence interval

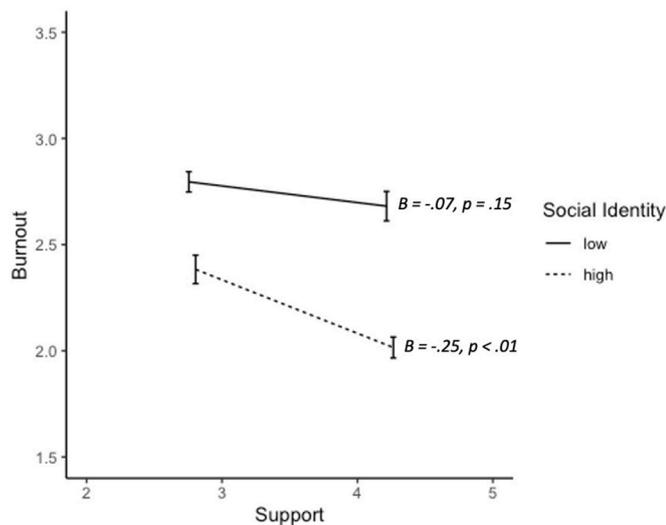


Fig. 1. Study 1 interaction between support and social identity on burnout. Social identity was plotted at 1 SD (6.7) above the mean and 1 SD (4.6) below the mean.

4.3. Procedure

After obtaining ethical approval from the General University Ethics Panel at the University of Stirling, participants were recruited opportunistically through advertisements on social media and through direct

Table 3
Study 2 means and standard deviations at each time point, and correlations.

	T1 M(SD)	T2 M(SD)	T3 M(SD)	1	2	3	4	5	6	7
1. Age										
2 Sex				–.01						
3 Level				.001	–0.27**					
4. Stress	2.48 (.85)	2.5 (.79)	2.46 (.87)	.001	0.13*	0.1		0.08	0.01	0.1*
5. Support	3.49 (.76)	3.37 (.94)	3.46 (.86)	–0.27**	0.01	0.03	–0.06		0.2**	–0.25**
6. Social identity	5.99 (.98)	5.78 (1.21)	5.67 (1.26)	–0.07	–0.02	0.15**	–0.14**	0.42**		–0.24**
7. Burnout	2.34 (.61)	2.35 (.71)	2.24 (.70)	–0.14*	0.05	–0.02	0.32**	–0.22**	–0.34**	

Note. T1 = Time 1, T2 = Time 2, T3 = Time 3, Correlations above the diagonal represent within-person associations. Correlations below the diagonal represent between person associations. *M* and *SD* are used to represent mean and standard deviation, respectively. * indicates *p* < .05. ** indicates *p* < .01.

correspondence with local sport teams. After informed consent had been provided, participants were either provided with an email link to the questionnaire or completed a paper-and-pencil version containing the scales described above at three equally spaced measurement waves (each approximately two months apart). Questionnaires were matched using unique participant response numbers.

4.4. Analyses

Descriptive statistics and Pearson correlations are displayed in Table 3. To examine whether social identification moderated the association between social support and burnout across time, multilevel models were conducted examining associations at three waves across a six-month timespan. To account for athletes completing measures at multiple occasions, participant ID was included as a random effect with random intercepts and fixed slopes. Covariates and predictor variables were included as fixed effects. As in Study 1, our analyses in Study 2 consisted of three models, examining covariates, then main effects, then the interaction term in separate models. Models examining the main effects were tested with between person scores and within person scores. Within person scores were centered at the individual level, whereby individuals' scores were subtracted from their mean score.

5. Study 2 results

5.1. Descriptive results

Pearson correlations at the between and within person level are displayed in Table 3. Overall, older athletes reported lower levels of

social support and less burnout compared to younger athletes. There were more males participating in a higher level compared to females, however, there were no other significant sex differences across the study variables. When comparing individuals who completed one, two or all three measurement occasions, an ANOVA indicated no significant differences between the groups on average levels of burnout across the study, $F(2, 317) = .766, p = .47$. A chi-square also indicated no differences in sex, $\chi^2(2) = 1.4, p = .50$. However, groups significantly differed by age, $F(2, 313) = 11.91, p < .01$. A follow up post-hoc Tukey test indicated that, compared to individuals who completed only one measurement occasion, individuals who completed 2 or 3 occasions were more likely to be older. As such, the number of measurement occasions in the sample may be biased towards older athletes. However, multilevel modelling is robust towards missing data, and there are minimal differences in the outcome variable (burnout) between individuals who completed one, two, or three measurement occasions.

5.2. Main analysis

Analysis of residuals indicated no violations of linearity, homogeneity, or normality assumptions. There was evidence of significant within-athlete variation, with 66% of the variance in burnout occurring between individuals. Analysis of covariates indicated significant a difference in burnout by age ($B = -.01, SE = .003, p = .01$) and stress ($B = .16, SE = .03, p < .01$), but not sex ($B = .03, SE = .07, p = .62$). Covariates accounted for 6% of the variance in the model. Accounting for covariates, in the second model there was a negative association between social support and burnout ($B = -.14, SE = .03, p < .01$), and between social identification and burnout ($B = -.15, SE = .03, p < .01$). Support and identification accounted for an additional 14% of the variance in burnout.

Between person interaction: Social identity significantly moderated the association between support and burnout ($B = -.04, SE = .02, p = .05, R^2 = .01$), with support being more strongly negatively associated with burnout at high levels of social identification ($B = -.19, SE = .04, p < .01$), compared to at lower levels of social identification ($B = -.09, SE = .04, p = .02$). Overall, fixed effects in the model accounted for 21% of the variance in burnout across a season. A sensitivity analysis examining reversed associations indicated no significant moderation between support and burnout on social identification ($B = .11, SE = .08, p = .14$) (See Fig. 2).

Within person interaction effects. The same interaction between

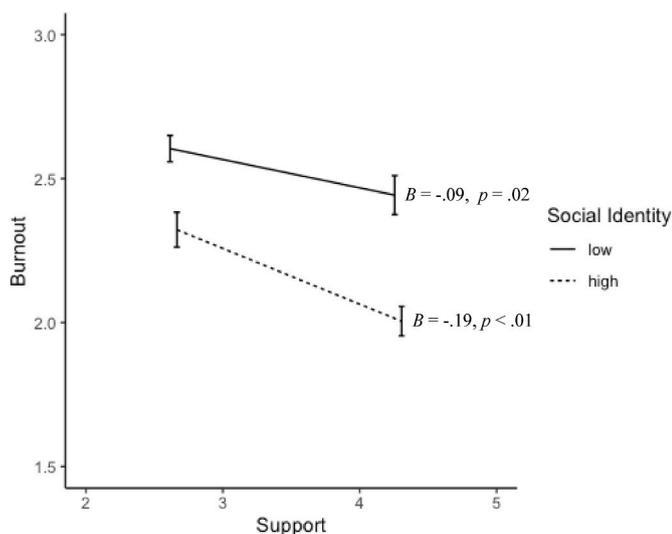


Fig. 2. Study 2 interaction between support and social identity on burnout. Social identity was plotted at 1 SD (6.9) above the mean and 1 SD (4.8) below the mean.

support and social identification was observed at the within person level ($B = -.26, SE = .14, p = .06$). The nature of the interaction was the same as the between person effects. The trend suggests that when individuals' social identification scores were higher than their mean score, higher levels of social support (in relation to their mean support level) related to lower levels of burnout.

6. Study 2 discussion

These results extend the results of Study 1 as the interaction between support and social identification on burnout was observed over a six-month timespan. Further, analysis of within person scores indicated that variation in one's mean score of social support and social identification over several months related to burnout. Overall, these results suggest that individuals looking to reduce burnout in athletes may target increasing social support and social identification strategies over time.

7. General discussion

The purpose of this research was to examine whether social identification moderated the association between perceptions of social support and burnout in sport. Previous research indicates that support is often associated with levels of burnout (Eklund & DeFreese, 2015; Gustafsson et al., 2017; Hartley & Coffee, 2019). The current results are consistent with this research, whereby, higher levels of support correlated with lower levels of burnout. Moderation analyses indicated that this relationship was stronger when athletes reported higher levels of social identification with others in their sport. Specifically, compared to lower levels of social identification, at higher levels of social identification the negative relationship between support and burnout was stronger. Overall, these results indicate that social support in the sport context may be more effective in reducing athlete burnout if the athlete identifies with others from their sport.

The results of the current studies indicate that social support may reduce the likelihood of athletes experiencing higher levels of burnout. Consistent with previous research, the knowledge that social support is available, if needed, may reduce symptoms of burnout in athletes (DeFreese & Smith, 2013; 2014; Hartley & Coffee, 2019). This may be due to support protecting individuals from feeling emotional and physical exhaustion (DeFreese & Smith, 2014) or support reducing the likelihood of experiencing devaluation and a reduced sense of accomplishment (DeFreese & Smith, 2013; Hartley & Coffee, 2019). Further, there was a main effect of social identity on levels of burnout, indicating that athletes who identify with others in their sport are less likely to experience symptoms of burnout. This association may be explained through perceptions of competence capabilities, whereby athletes who identify within their sport are more confident in their abilities (Murray et al., 2020). Furthermore, according to the revised theory of challenge and threat states (Meijen et al., 2020), social influences impact individuals' appraisals of situational demands (e.g., do I have the resources required to meet the demands of the situation?). A strong social identity might enhance perceptions of the availability of coping resources, which can facilitate the likelihood of adapting to stress related outcomes like burnout (Hartley et al., 2020; Rees et al., 2015; Smith, 1986). Beyond symptoms of burnout, these results are consistent with Haslam and colleagues' social cure theorizing, whereby, a sense of belonging within groups enables access to a range of physical and psychological resources which are adaptive for mental health (Haslam et al., 2012; Jetten et al., 2012).

These studies also advance our understanding of social support and burnout by indicating that social support may be more effective when it is coming from someone with whom one shares a social identity. This aligns with social identity theory and supports observations made in qualitative exploratory research (Hartley et al., 2022). Sharing a social identity with others lays a foundation whereby individuals can de-personalise and re-categorize themselves in terms of group membership

and, as such, experience the potential adaptive consequences of social group membership (Turner, 1985) such as reduced drop out (Murray & Sabiston, 2022), more prosocial behaviours (Bruner et al., 2014), and better sport performance (Stephen et al., 2023). Specifically, social identification can provide ingroup members with a common point of reference that facilitates the communication and coordination of social support behaviours (Haslam et al., 2004b, 2012; Postmes, 2003). Overall, our findings provide quantitative evidence that social identities provide the basis for effective social support, and thus facilitates adaptive consequences of support on burnout in athletes.

These results have meaningful implications on how coaches and sport leaders facilitate social support within their sport networks, to the extent that social identification may enhance its potential positive outcomes. Specifically, sport leaders might take a social identity approach to leadership by facilitating a sense of social identification in their groups (Stevens et al., 2021). In doing so, this can provide a foundation for supportive behaviours to exert a positive influence on athletes' symptoms of burnout. Existing research indicates that athletes who experience higher levels of social identification with their sport team are less likely to drop out of sport one year later (Murray & Sabiston, 2022), and the current results suggest this may be because the support athletes received reduced symptoms of burnout. As such, within the sport context, facilitating social identification may help improve athletes' sport experiences and limit potential drop out.

Caution is warranted, however, when building social identification within sport, as higher levels of social identification may also have the potential to exacerbate maladaptive consequences of social support. A strong social identification with one's sport can create a heightened importance on adhering to the norms of that sport (Benson et al., 2017; Rees et al., 2015), and the exchange of social support may violate established group norms (Ramaeker & Petrie, 2019). For example, Hartley et al. (2022) found that the exchange of mental health support within a sport team violated the established norms within sport. In this scenario, higher levels of social identification in the presence of social support may have maladaptive consequences, such as increased burnout. Specifically, the common framework that social identities can provide (Haslam et al., 2012) may be superseded by the violation of team norms attached to those identities. Further research is needed to understand how the norms within a sport and sport teams may influence the provision and appraisal of social support among athletes.

These studies used both cross-sectional and longitudinal designs, whereby data for Study 2 were collected across multiple time points, indicating the associations observed in Study 1 were stable across time. However, causality cannot be inferred from these approaches. Specifically constructs such as social identity (Murray et al., 2020) and burnout (Carson et al., 2017) are dynamic in nature with levels susceptible to change across days and weeks. As such, future studies could use research designs such as ecological momentary assessments and experimental designs to examine causality. In addition, because measurement occasions did not occur at each sport's start, mid, and endpoint, we could not reliably examine how associations change across a season. As such, further research is needed to examine how these processes evolve from the start to end of a season. Further, although these studies examined constructs across a variety of ages while including age as a covariate, the nature of these constructs likely change across the lifespan. For example, as people age, their motivations for social contact and development of social relationships change (Carstensen, 1992). Understanding how support and social identification interact within different demographics (e.g., race, age, gender) would further our understanding of burnout. Specifically, this knowledge would allow for more nuanced and targeted strategies aimed at keeping more adults in sport. Finally, the effect size for the interaction term was small, and as such, further research is needed to understand the magnitude of the effect that social identification has on the support-burnout process.

Overall, these studies indicate that the relationship between athletes'

perceptions of social support and burnout is moderated by social identification. Not all support is equal. Instead, the providers of support may play an important role as to whether athletes experience adaptive consequences of perceived social support. It is worth noting, however, that in certain environments, social support may also have maladaptive consequences which can be exacerbated through social identity (Hartley et al., 2022; Kellezi & Reicher, 2012). As such, further research is needed to understand the circumstances under which these processes develop. Also, further research is needed to test the causality of these associations over time. If confirmed, strategies to decrease levels of burnout in athletes could be grounded within social identity theory, whereby athletes who identify with their teammates and feel social support from their teammates may be protected from the higher levels of burnout commonly experienced within sport.

Declaration of competing interest

Given their role as Editor in Chief Coffee P., had no involvement in the peer-review of this article and had no access to information regarding its peer-review. All other authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

References

- Benson, A. J., Bruner, M. W., & Eys, M. A. (2017). A social identity approach to understanding the conditions associated with antisocial behaviors among teammates in female teams. *Sport, Exercise, Perform. Psychol.*, 6, 129–142.
- Boat, R., & Taylor, I. M. (2015). Patterns of change in psychological variables leading up to competition in superior versus inferior performers. *Journal of Sport & Exercise Psychology*, 37(3). <https://doi.org/10.1123/jsep.2014-0216>
- Bruner, M. W., Boardley, I. D., & Côté, J. (2014). Social identity and prosocial and antisocial behavior in youth sport. *Psychology of Sport and Exercise*, 15, 56–64. <https://doi.org/10.1016/j.psychsport.2013.09.003>
- Carson, R. L., Baumgartner, J. J., Ota, C. L., Kuhn, A. P., & Durr, A. (2017). An ecological momentary assessment of burnout, rejuvenation strategies, job satisfaction, and quitting intentions in childcare teachers. *Early Childhood Education Journal*, 45(6). <https://doi.org/10.1007/s10643-016-0831-9>
- Carstensen, L. L. (1992). Motivation for social contact across the life span: A theory of socioemotional selectivity. In *Nebraska symposium on motivation*, 40. Nebraska Symposium on Motivation.
- Coffee, P., Parker, P. C., Murray, R. M., & Kawycyz, S. (2020). Attribution. In S. A. Haslam, K. Fransen, & F. Boen (Eds.), *The new psychology of sport and exercise: The social identity approach*. Sage Publications.
- Cresswell, S. L. (2009). Possible early signs of athlete burnout: A prospective study. *Journal of Science and Medicine in Sport*, 12(3). <https://doi.org/10.1016/j.jsams.2008.01.009>
- Cresswell, S. L., & Eklund, R. C. (2006). The convergent and discriminant validity of burnout measures in sport: A multi-trait/multi-method analysis. *Journal of Sports Sciences*, 24(2). <https://doi.org/10.1080/02640410500131431>
- DeFreese, J. D., & Smith, A. L. (2013). Teammate social support, burnout, and self-determined motivation in collegiate athletes. *Psychology of Sport and Exercise*, 14(2). <https://doi.org/10.1016/j.psychsport.2012.10.009>
- DeFreese, J. D., & Smith, A. L. (2014). Athlete social support, negative social interactions, and psychological health across a competitive sport season. *Journal of Sport & Exercise Psychology*, 36, 619–630. <https://doi.org/10.1123/jsep.2014-0040>
- Doosje, B., Ellemers, N., & Spears, R. (1995). Perceived intragroup variability as a function of group status and identification. *Journal of Experimental Social Psychology*, 31, 410–436.
- Eklund, R. C., & DeFreese, J. D. (2015). Athlete burnout: What we know, what we could know, and how we can find out more. *Int. J. Appl.Sports Sci.*, 27(2). <https://doi.org/10.24985/ijass.2015.27.2.63>
- Ellemers, N., Spears, R., & Doosje, B. (2002). Self and social identity. *Annual Review of Psychology*, 53, 161–186. <https://doi.org/10.1146/annurev.psych.53.100901.135228>
- Freeman, P., Coffee, P., & Rees, T. (2011). The PASS-Q: The perceived available support in sport questionnaire. *Journal of Sport & Exercise Psychology*, 33(1). <https://doi.org/10.1123/jsep.33.1.54>
- Freeman, P., & Rees, T. (2010). Perceived social support from team-mates: Direct and stress-buffering effects on self-confidence. *European Journal of Sport Science*, 10(1). <https://doi.org/10.1080/17461390903049998>
- Glandorf, H. L., Coffee, P., & Madigan, D. J. (2022). Team identification and athlete burnout: Testing longitudinal serial mediation via perceived support and stress.

- Psychology of Sport and Exercise*, 63. <https://doi.org/10.1016/j.psychsport.2022.102292>
- Goodger, K., Gorely, T., Lavallee, D., & Harwood, C. (2007). Burnout in sport: A systematic review. In *Sport psychologist*, 21. <https://doi.org/10.1123/tsp.21.2.127>. Issue 2.
- Gustafsson, H., DeFreese, J. D., & Madigan, D. J. (2017). Athlete burnout: Review and recommendations. In *Current opinion in psychology*, 16. <https://doi.org/10.1016/j.copsyc.2017.05.002>
- Hartley, C., & Coffee, P. (2019). Perceived and received dimensional support: Main and stress-buffering effects on dimensions of burnout. *Frontiers in Psychology*, 10(JULY). <https://doi.org/10.3389/fpsyg.2019.01724>
- Hartley, C., Coffee, P., & Abhyankar, P. (2022). Provider-recipient perspectives on how social support and social identities influence adaptation to psychological stress in sport. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.940747>
- Hartley, C., Haslam, S. A., Coffee, P., & Rees, T. (2020). Social support. In S. A. Haslam, K. Fransen, & F. Boen (Eds.), *The new psychology of sport and exercise: The social identity approach*. Thousand Oaks: SAGE Publications.
- Haslam, S. A., Jetten, J., O'Brien, A., & Jacobs, E. (2004a). Social identity, social influence and reactions to potentially stressful tasks: Support for the self-categorization model of stress. *Stress and Health*, 20(1). <https://doi.org/10.1002/smi.995>
- Haslam, S. A., Jetten, J., O'Brien, A., & Jacobs, E. (2004b). Social identity, social influence and reactions to potentially stressful tasks: Support for the self-categorization model of stress. *Stress and Health*, 20(1). <https://doi.org/10.1002/smi.995>
- Haslam, S. A., Reicher, S. D., & Levine, M. (2012). When other people are heaven, when other people are hell: How social identity determines the nature and impact of social support. In *The social cure: Identity, health and well-being*.
- Isoard-Gauthier, S., Guillet-Descas, E., & Gustafsson, H. (2016). Athlete burnout and the risk of dropout among young elite handball players. *The Sport Psychologist*, 30(2). <https://doi.org/10.1123/tsp.2014-0140>
- Jenkin, C. R., Eime, R. M., Westerbeek, H., O'Sullivan, G., & Van Uffelen, J. G. Z. (2017). Sport and ageing: A systematic review of the determinants and trends of participation in sport for older adults. *BMC Public Health*, 17(1). <https://doi.org/10.1186/s12889-017-4970-8>
- Jetten, J., Haslam, C., & Haslam, S. A. (2012). *The social cure: Identity, health and well-being*. Psychology Press.
- Kellezi, B., & Reicher, S. D. (2012). Social cure or social curse? The psychological impact of extreme events during the Kosovo conflict. In *The social cure: Identity, health and well-being*.
- Leach, C. W., van Zomeren, M., Zebel, S., Vliek, M. L. W., Pennekamp, S. F., Doosje, B., Ouwerkerk, J. W., & Spears, R. (2008). Group-level self-definition and self-investment: A hierarchical (multicomponent) model of in-group identification. *Journal of Personality and Social Psychology*, 95, 144–165. <https://doi.org/10.1037/0022-3514.95.1.144>
- Levine, M., Prosser, A., Evans, D., & Reicher, S. (2005). Identity and emergency intervention: How social group membership and inclusiveness of group boundaries shape helping behavior. *Personality and Social Psychology Bulletin*, 31(4). <https://doi.org/10.1177/0146167204271651>
- Ludecke, D. (2019). *sjstats: Statistical functions for regression models*. <https://doi.org/10.5281/zenodo.1284472>
- Martin, L. J., Balderson, D., Hawkins, M., Wilson, K., & Bruner, M. W. (2018). The influence of social identity on self-worth, commitment, and effort in school-based youth sport. *Journal of Sports Sciences*, 36, 326–332. <https://doi.org/10.1080/02640414.2017.1306091>
- Meijen, C., Turner, M., Jones, M. V., Sheffield, D., & McCarthy, P. (2020). A theory of challenge and threat states in athletes: A revised conceptualization. In *Frontiers in psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.00126>
- Murray, R. M., Coffee, P., Arthur, C. A., & Eklund, R. C. (2020). Social identity moderates the effects of team-referent attributions on collective efficacy but not emotions. *Sport, Exercise, Perform. Psychol*, 9, 322–340. <https://doi.org/10.1037/spy0000178>
- Murray, R. M., Koulanova, A., & Sabiston, C. M. (2022). Understanding Girls' motivation to participate in sport: The effects of social identity and physical self-concept. *Frontiers in Sports and Active Living*, 3, 787334. <https://doi.org/10.3389/fspor.2021.787334>.
- Murray, R. M., & Sabiston, C. M. (2022). Understanding relationships between social identity, sport enjoyment, and dropout in adolescent girl athletes. *Journal of Sport & Exercise Psychology*, 44(1). <https://doi.org/10.1123/jsep.2021-0135>
- Murray, R. M., Sabiston, C. M., Doré, I., Bélanger, M., & O'Loughlin, J. L. (2021). Association between pattern of team sport participation from adolescence to young adulthood and mental health. *Scandinavian Journal of Medicine & Science in Sports*, 31(7). <https://doi.org/10.1111/sms.13957>
- Nicholson, M., Hoye, R., & Gallant, D. (2011). The provision of social support for elite indigenous athletes in Australian Football. *Journal of Sport Management*, 25(2). <https://doi.org/10.1123/jsm.25.2.131>
- Postmes, T. (2003). A social identity approach to communication in organizations. *Soc. Ident. Work: Develop.Theor.Organiz.Pract.* October.
- Postmes, T., Haslam, S. A., & Jans, L. (2013). Additional recommendations for measuring social identification. In *Research gate*. <https://doi.org/10.1002/ejsp.1973>
- Raedeke, T. D., & Smith, A. L. (2001). Development and preliminary validation of an athlete burnout measure. *Journal of Sport & Exercise Psychology*, 23(4). <https://doi.org/10.1123/jsep.23.4.281>
- Raedeke, T. D., & Smith, A. L. (2004). Coping resources and athlete burnout: An examination of stress mediated and moderation hypotheses. *Journal of Sport & Exercise Psychology*, 26(Issue 4). <https://doi.org/10.1123/jsep.26.4.525>
- Raedeke, T. D., & Smith, A. L. (2009). The athlete burnout questionnaire manual. *Fitness Inform. Technol.*, 4.
- Ramaeker, J., & Petrie, T. A. (2019). "Man up!": Exploring intersections of sport participation, masculinity, psychological distress, and help-seeking attitudes and intentions. *Psychology of Men and Masculinity*, 20(4). <https://doi.org/10.1037/men0000198>
- Rees, T., & Freeman, P. (2010). Social support and performance in a golf-putting experiment. *The Sport Psychologist*, 24(3). <https://doi.org/10.1123/tsp.24.3.333>
- Rees, T., Haslam, S. A., Coffee, P., & Lavallee, D. (2015). A social identity approach to sport psychology: Principles, practice, and prospects. *Sports Medicine*, 45, 1083–1096. <https://doi.org/10.1007/s40279-015-0345-4>
- Reysen, S., Katzarska-Miller, I., Nesbit, S. M., & Pierce, L. (2013). Further validation of a single-item measure of social identification. *European Journal of Social Psychology*, 43, 463–470. <https://doi.org/10.1002/ejsp.1973>
- Robinson, C. D., Tomek, S., & Schumacker, R. E. (2013). Tests of moderation effects: Difference in simple slopes versus the interaction term. *General Linear Mod. J.*, 39, 16–24.
- Shang, Y., & Yang, S. Y. (2021). The effect of social support on athlete burnout in weightlifters: The mediation effect of mental toughness and sports motivation. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.649677>
- Smith, R. E. (1986). Toward a cognitive-affective model of athletic burnout. *Journal of Sport Psychology*, 8(1). <https://doi.org/10.1123/jsp.8.1.36>
- Steffens, N. K., Alexander Haslam, S., Kerschreiter, R., Schuh, S. C., & van Dick, R. (2014). Leaders enhance group members' work engagement and reduce their burnout by crafting social identity. *Zeitschrift Fur Personalforschung*, 28(1–2). <https://doi.org/10.1688/ZfP-2014-01-Steffens>
- Stephen, S. A., Coffee, P., Habeeb, C. M., Morris, R., & Tod, D. (2023). Social identity in sport: A scoping review of the performance hypothesis. *Psychology of Sport and Exercise*, Article 102437. <https://doi.org/10.1016/j.psychsport.2023.102437>
- Stevens, M., Rees, T., & Cruwys, T. (2021). Social identity leadership in sport and exercise: Current status and future directions. In *Psychology of sport and exercise*, 55. <https://doi.org/10.1016/j.psychsport.2021.101931>
- Turner, J. C. (1985). Social categorization and the self-concept: A social cognitive theory of group behaviour. In *Advances in group processes*.