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# The Fears of Compassion in Sport Scale: a short, context-specific measure of fear of self-compassion and receiving compassion from others validated in UK athletes

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## ABSTRACT

**Objective:** Despite the many benefits of compassion, athletes fear being compassionate. To provide a valid and reliable psychometric tool for sport researchers and practitioners, we developed and validated a *Fears of Compassion in Sport Scale* (FCSS), based on an existing measure of fears of compassion in general life domains.

**Method:** We generated FCSS items measuring sport-specific *fear of self-compassion* (FSC) and *receiving compassion from others* (FCO). Following a content evaluation of FCSS items, we assessed psychometric properties of the new instrument in three samples of UK athletes (total N = 792).

**Results:** The FCSS demonstrated very good factorial, concurrent, discriminant, predictive validity, measurement invariance (especially across sport types and competitive levels), internal consistency, and test-retest reliability. Both FSC and FCO in sport were negatively associated with self-compassion and associated positively with narcissistic vulnerability and psychological distress. Athletes were more fearful of self-compassion but less fearful of receiving compassion in sport compared to in general life. However, it was FCO, not FSC, that predicted psychological distress at three months follow-up.

**Conclusion:** The new instrument offers a way to assess fears of compassion in sport. The present research provided new knowledge regarding different manifestations of fears of compassion in sport.

## KEY POINTS

### What is already known about this topic:

- (1) Compassionate mind training offers emotion regulation benefits and is known to facilitate athletes in establishing and maintaining mental health.
- (2) However, athletes have raised concerns over embracing compassion because they are fearful of becoming mediocre by adopting a compassionate mind.
- (3) Whilst attention has been called to integrating compassion in competitive settings and examining fears of compassion in sport, no existing psychometric measure is available for assessing sport-specific fears of compassion.

### What this topic adds:

- (1) Through three athletic samples, this research validated the first psychometric measure for assessing fears of compassion in sport and demonstrated good construct validity, internal consistency, test-retest reliability, and measurement invariance.
- (2) Athletes appear to be more fearful of self-compassion but less fearful of receiving compassion in sport compared to general life domains.
- (3) Cross-lagged panel analysis revealed baseline fear of compassion from others (not fear of self-compassion) predicted athletes' psychological distress in 3-month time.

## ARTICLE HISTORY

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## KEYWORDS

Compassion; fears of compassion; psychological distress; vulnerability; sport

The way to sport success is a rocky road (Hardy et al., 2017). Excessive training, injury, deselection pressure, inadequate recovery, and career termination are threats to athletes' mental health (Moesch et al., 2018), and approximately 50% of elite athletes suffer from mental health problems (Åkesdotter et al., 2020). While mental health can be a challenge to sport

talents, a recent Great British medallists' project revealed that successfully coping with negative life events is a key psychosocial factor underpinning the development of super-elite serial Olympic medallists (Hardy et al., 2017). Previous experience with successful coping can therefore be a protective factor against poor mental health. In this context, one protective

factor that has received increased attention in competitive sport is self-compassion (see Mosewich, Ferguson, et al., 2019).

Self-compassion involves being sensitive to and moved by one's suffering, distressed feelings, opening one's awareness to be gentler and kind to painful experiences rather than avoiding or disconnecting from them (Neff, 2003). Self-compassion can allow an individual to see any negative event as part of a common life experience and respond in a less critical, non-judgemental, and more accepting approach, with a motivation to take action to alleviate distressed and unpleasant feelings (Gilbert et al., 2017). Pioneering work on self-compassion and sport has provided support to the benefit of athletes adopting a compassionate mind towards themselves, with athletes high in self-compassion: being more capable of getting through emotionally difficult times (Ferguson et al., 2015), demonstrating superior stress response and coping (Mosewich, Ferguson, et al., 2019), and reporting better performance satisfaction and enhanced motivation (Barczak & Eklund, 2020). This is complemented by qualitative research, which suggests that high-performing athletes shift from self-critical to self-compassionate approaches to recuperate from setbacks (Frentz et al., 2020) and maintain positive emotions such as satisfaction and optimism towards themselves (Eke et al., 2020).

Despite self-compassion being associated with a variety of benefits in sport (see Cormier et al., 2023 for review), some athletes devalue or are fearful of compassion. For example, in Ferguson et al. (2014) qualitative study of competitive athletes, the majority were not convinced that a compassionate approach was best for their performance and development and believed self-criticism was essential for success. Sutherland et al.'s (2014) qualitative study of elite athletes from different sports revealed similar findings – despite the agreement for the potential benefits and one's need for self-compassion, athletes displayed more self-critical responses to adversities because they were fearful of becoming mediocre (Sutherland et al., 2014).

It is argued that tackling the fear of compassion is vital to integrating compassion-related practices in sport (Mosewich, Ferguson, et al., 2019). However, to date, quantitative investigation of fear of compassion in sport is rare. One first study is from Walton et al. (2020). In a sample of 253 sport participants, these researchers found that 1) fear of self-compassion in daily life was associated with increased psychological distress among sport participants, and 2) self-compassion was related to reduced psychological

distress regardless of fear of self-compassion. However, Walton et al. (2020) only assessed athletes' fears of compassion in general life domains rather than in sport-specific contexts. The lack of information to compare the context-specific change in fear of compassion was a limitation because athletes' fear of compassion in sport and other relevant attitudes (e.g., grit) may not overlap with or represent their views towards daily life events which are not influenced by competitive sporting contexts (Cormier et al., 2019). Therefore, the primary objective of this study was to provide a valid and reliable assessment of fears of compassion in sport-specific contexts and investigate how such fears vary between sport and general life domains.

To allow the comparison of fears of compassion in sport and non-sport situations, we aimed to adapt Gilbert et al.'s (2011) fears of compassion scale for sport use. Fears of compassion have been extensively studied in the general population and in mental health settings, where these fears are often elevated through the Fears of Compassion Scale (FCS; Gilbert et al., 2011). However, the instruction in Gilbert et al.'s original scale was not compatible with sporting contexts, and the original FCS is 38 items long, which requires extensive time to complete. Indeed, shorter scales with good psychometric properties have become more popular because they are less time-consuming, exert lower levels of tiredness or mental fatigue for the respondents, and thus contribute to better data quality and higher completion rate (DeVellis, 2003). Also, in not considering sport-specific contexts, Gilbert et al.'s FCS may miss the phenomena that competitive individuals have heightened fears of self-compassion in competitive contexts not daily life (Basran et al., 2019), which may explain Walton et al. (2020) finding on the lack of distinction between levels of fearful feeling towards compassion among non-athletes and athletes. The authors, therefore, sought to adapt instructions to allow measurement of fears of compassion in sport contexts and to condense Gilbert et al.'s FCS to a concise form.

A further benefit of creating a condensed, context-specific measure of fears of compassion based on Gilbert et al.'s FCS is that the scale has distinguished the directions of compassion, including fear of self-compassion, fear of receiving compassion from other people, and fear of giving compassion to other people. However, it is noted that receiving compassion and giving compassion, despite their importance for mental health, have not received much attention in sport yet. Previous literature consistently suggests that compared to fear of self-compassion and fear of receiving compassion from others, fear of giving compassion to

others was not related to mental health risks (Gilbert et al., 2011). In addition, fear of compassion for others did not account for changes in mental health and post-traumatic growth during the COVID-19 pandemic (Matos et al., 2021) and did not predict improvements following compassion-focused interventions (Kirby et al., 2019). This project, therefore, focused on the fear of self-compassion and the fear of receiving compassion from others, rather than the fear of compassion for others. Remarks in sport literature also demonstrate similar findings; it is the fear of compassion towards oneself that is the most concerning (Mosewich, Ferguson, et al., 2019) and predicts an increased risk of psychological distress (Walton et al., 2020). Therefore, we excluded the fears of compassion for other subscales when adapting Gilbert et al. (2011) scale to the *Fears of Compassion in Sport Scale* (FCSS).

To summarise, in the present research, we adapted Gilbert et al. (2011) fears of compassion scale for sport use (i.e., the FCSS), emphasising on assessing fear of self-compassion and fear of receiving compassion from others in sport. We recruited two UK athletic samples in Study 1 (Sample 1  $N=292$ , Sample 2  $N=297$ ) to examine factorial validity, measurement invariance, concurrent and discriminant validity, and internal consistency of the FCSS using a cross-sectional survey design. We recruited another independent sample in Study 2 (Sample 3  $N=203$ ) to assess the replicability of Study 1 findings and examine the test-retest reliability and predictive validity of the FCSS using data from a longitudinal survey.

## Study 1: method

### Study 1: instrument development

Informed by a review of existing instruments assessing fears of compassion (Gilbert et al., 2011) and studies investigating the constructs in sport settings (Ferguson et al., 2014; Sutherland et al., 2014), we developed a pool of initial items from Gilbert et al. (2011) fear of self-compassion and fear of receiving compassion from other subscales, removing similar/repeated items with lower factor loadings and retaining items that appear most relevant to sport. Six items representing fear of self-compassion (e.g., “I fear that if I am more compassionate for myself, I will become a weak person”) and six items indicating fear of compassion from others (e.g., “When people are kind and compassionate towards me, I feel anxious or embarrassed”) were selected. In line with Gilbert et al.’s original fears of compassion scale, we retained the use of a 5-point Likert scale rating for each item ranging from 0 (*do not agree at all*) to 4 (*completely*

*agree*). Five coaches from different sports (of which two were female) with over 11 years’ coaching experience, 11 athletes (of which six were female) who were competing at university level and above at the time of study, and 2 sport psychologists (both were male) with over 10 years of practitioner experience rated the extent to which the selected items were relevant to sport from  $-3$  (*not representative at all*) to 3 (*very representative*). All selected items achieved an average rating of 2 and above thus were considered good to retain. To foster respondents’ understanding of compassion and its relevance to sport, we provided a literature definition of compassion and offered insights into its manifestations in sport-specific contexts as part of the instruction to the FCSS. The definition we provided was as follows:

Compassion can be defined as the sensitivity to suffering in oneself or others, with a motivation and actions to alleviate it. In sport, compassion might look like: recognising you are being too hard and critical of yourself, acknowledging feelings of negative emotions and taking the time to step-back, slow-down and allow yourself the time to rest and recuperate so you can approach and continuously engage in training, competition, and any related adversities with a more accepting and gentler mindset.

### Study 1: participants

We recruited two samples of UK athletes for an initial examination of the factorial, concurrent and discriminant validity and measurement invariance between different genders (i.e., male and female), sport type (i.e., team and individual sports), and participating level (i.e., recreational, regional, and national or above). Sample 1 ( $N=292$ , of which 167 were male) were team ( $n=224$ ; 33.37% football, 13.03% rugby and 6.13% netball) or individual ( $n=68$ ; 11.59% badminton, 11.16% swimming and 8.16% tennis) athletes for recreational purposes ( $n=91$ ), competing at regional ( $n=194$ ) or national level and above ( $n=7$ ), with an average age of 27.75 years ( $SD=8.94$ ) and 8.53 years of receiving sport training ( $SD=7.01$ ). Sample 2 ( $N=297$ , of which 131 were male) were team ( $n=227$ ; 34.54% football, 28.52% netball, 7.20% basketball) or individual ( $n=70$ ; 23.34% running, 20.36% swimming, 5.51% weightlifting) athletes for recreational purposes ( $n=90$ ), competing at regional ( $n=145$ ) or national level and above ( $n=62$ ), with an average age of 24.28 years ( $SD=7.79$ ) and 10.52 years of receiving sport training ( $SD=7.43$ ). Both samples fulfilled the minimum sample size requirement for factor analysis based on the rule of thumb (i.e., 20 times the number of scale items; Mundfrom et al., 2005).

### Study 1: measures

We used the initial pool of 12 items selected from Gilbert et al. (2011) scale for the *Fears of Compassion in Sport Scale* (FCSS). To compare athletes' interpretation of these initial items in sport versus general life domains, we instructed participants to consider each item and rate to what extent they agree on the fearful feelings about compassion in sporting situations and in daily life generally. The inclusion of general life ratings was only for comparison purposes in this study and was not part of the FCSS. Such an approach allowed us to test the degree to which scores of the new instrument (i.e., FCSS) are empirically distinguishable (i.e., not exceeding .90 correlation with) from closely related but conceptually distinct concepts (i.e., fears of compassion in general life) and thus support discriminant validity (see Vaughn & Daniel, 2012).

To evaluate the concurrent validity of the FCSS, we administered a pool of existing measures that are relevant to fear of compassion, including the *Self-Compassion Scale-Short* (SCSS; Raes et al., 2011) and the *Hypersensitive Narcissistic Personality Inventory* (HSNS; Hendin & Cheek, 1997). The SCSS contains 12 items assessing one's feelings towards personal failure and distress (e.g., "When I fail at something important to me, I become consumed by feelings of inadequacy") using a 5-point Likert scale ranging from 1 (*almost never*) to 5 (*almost always*). We generated average scores for the SCSS, with higher scores reflecting increased compassion towards oneself. Gilbert et al. (2011) found dispositional self-compassion to be associated negatively and weakly with fears of compassion. We therefore anticipated that the FCSS items and any of their dimension(s) should correlate negatively and relatively weakly to one's dispositional self-compassion.

The HSNS consists of 10 items that describe one's vulnerable feelings and behaviours (e.g., "My feelings are easily hurt by ridicule or the slighting remarks of others"). Participants indicated to what extent each HSNS item was characteristic of themselves using a 5-point Likert scale ranging from 1 (*very uncharacteristic or untrue*) to 5 (*very characteristic or true*). The HSNS is a validated measure of narcissistic vulnerability (Hendin & Cheek, 1997). We generated mean scores for the HSNS, with higher scores reflecting increased vulnerability of the participants. Since narcissistic vulnerability in the sub-clinical population reflects a fragile form of self-importance that is hypersensitive and hypervigilant to ego threats (Krizan & Herlache, 2018) and being compassionate towards oneself is considered a threat to athletes' competitiveness and

bolstered ego (Sutherland et al., 2014), we predicted that fears of compassion in sport should correlate positively with one's level of narcissistic vulnerability.

### Study 1: procedures

With institutional approval (ethics number ETH2122-0126 and ETH2122-0243 for Samples 1 and 2), we recruited the two samples using different approaches. For Sample 1, we built an online survey (via Qualtrics) consisting of full study information, consent, demographic questions, and the measures described in the previous section and advertised it through social media and via email to university sport teams across the UK. To generate a different sample, we recruited Sample 2 using a mixed approach of online and in-person data collection. Specifically, 178 participants were recruited through Prolific (i.e., the UK's largest cloud-sourcing research participation platform; <https://www.prolific.co>). These participants had participated in our research previously through Prolific, passed our screening questions on sporting experience, thus met inclusion criteria, and returned the study survey within reasonable completion time. They received a £1.25 incentive via Prolific (based on average completion time and minimum Prolific payment rate). To achieve a similar number of participants to Sample 1, we recruited an extra of 119 participants from sport clubs in areas of east and west midlands of the UK using paper-based questionnaires. On average, participants took 15 min to complete the study survey.

### Study 1: data analysis

We processed data using IBM SPSS Version 27 and performed data analysis using *Mplus* Version 8 (Muthén & Muthén, 2017). Prior to factor analysis, we conducted Bartlett's test of sphericity and assessed a Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. A significant Bartlett's test and over .80 KMO indicates appropriateness for factor analysis. To understand the factor structure of the FCSS, we first performed Exploratory Factor Analysis (EFA) using the Sample 1. Since the FCSS items were adapted from two sub-dimensions (i.e., fear of self-compassion and fear of compassion from others) by Gilbert et al. (2011) original fears of compassion scale, we expected a 2-factor model should outperform 1- or 3-factor model, with extraction based on an eigenvalue  $\geq 1.00$  and comparison of model fit indices. Following the recommendation (R. Kline, 2016), we used Geomin (i.e., an oblique type of rotation) for the EFA, which

allows the factors to correlate with each other. We would opt to perform a Confirmatory Factor Analysis (CFA) for Sample 1 to examine and compare model fits if the EFA suggests a satisfactory factor structure but reveals certain items being poorly loaded to the factors (i.e., in this case, we would test model fits for models with and without suspicious items using the certain factor structure suggested by EFA). We then tested the replicability of the factor structure adopting the same CFA strategy using Sample 2. Robust Maximum Likelihood (MLR) estimation was used to mitigate any potential impacts of data non-normality, which in Mplus also implements the Full Information Maximum Likelihood (FIML; see Muthén & Muthén, 2017) approach to deal with missing data (<1% at item level in Samples 1 and 2). Following recommendations (Hu & Bentler, 1999), Chi-square ( $\chi^2$ ), comparative fit index (CFI), standardised root mean square residual (SRMR), and root mean square error of approximation (RMSEA) were checked to assess and compare model fit, with  $\geq .95$  CFI,  $\leq .08$  SRMR,  $\leq .06$  RMSEA, indicating a good model fit.

Once confirmed the final FCSS items and factor structure (i.e., the identified model), we performed a test of measurement invariance using a combined sample of Samples 1 and 2. We examined measurement invariance across different genders (i.e., male vs female), sport types (i.e., team vs individual sports), and participating levels (i.e., recreational, regional, and national/international) at three levels, including *configural* invariance (i.e., identical factor structure across groups), *metric* invariance (i.e., equivalent factor loadings thus equal weighting of scale items across groups), and *scalar* invariance (i.e., equivalent factor intercept/threshold thus identical response pattern and scale interpretation across groups). We tested the invariance by progressively imposing the appropriate constraints to the identified model (based on CFA results) and examined  $\Delta$ CFI at each step when imposing constraints for assessing the three levels of invariance (see Byrne, 2012). Following the guidance (Cheung & Rensvold, 2002),  $\Delta$ CFI values of less than .01 change indicating invariance when imposing the relevant constraints (i.e., configural, metric and scalar).

After confirming factor validity and measurement invariance, we further examined concurrent validity (via correlations of FCSS with dispositional self-compassion and narcissistic vulnerability), discriminant validity (via correlations of FCSS with fear of compassion in general life) and internal consistency (via Cronbach's alpha) of the instrument in Samples 1 and 2. Correlations for assessing concurrent validity should be significant and as expected (R. Kline, 2016).

Correlation for assessing discriminant validity should be distinguishable and not too strong (i.e.,  $r < .90$ ; Vaughn & Daniel, 2012). Cronbach's alpha of .70, .80, .90 indicates good, very good, and excellent internal consistency, respectively.

## Study 1: results

### Study 1: factorial validity

Bartlett's test of sphericity was significant ( $\chi^2 = 1540$ ,  $df = 66$ ,  $p = .00$ ), and the KMO was .90, which suggests appropriateness for further factor analysis. Analysis of EFA models using Sample 1 supported a 2-factor model of the FCSS, with four items on fear of self-compassion in sport (factor 1) and another 6 items on fear of compassion from others (factor 2) as anticipated. However, the remaining two items (i.e., "I fear that I become too compassionate to myself, bad things will happen", "I fear that if I become kinder and less critical to myself, my performance standards will drop") cross-loaded approximately equal to both factors with standardised factor loadings ranging .30–.42. As such, it is important to not only confirm the two-factor structure of the FCSS but also compare the model fit for models with and without the cross-loaded items (R. Kline, 2016). We therefore retained the two-factor structure and compared the fit indices of the 12-item model and the 10-item model (removing the cross-loaded items) through Confirmatory Factor Analysis (CFA) using Sample 1 to identify a better fit model (i.e., 12-item 2-factor vs. 10-item 2-factor) and then repeated the test using Sample 2 to examine replicability of the identified model from Sample 1.

We first tested a two-factor model with all the initial FCSS items (M1a – six items loaded to fear of self-compassion and six items loaded to fear of compassion from others) and a two-factor model with cross-loaded items removed (M1b – four items loaded to fear of self-compassion, six items loaded to fear of compassion from others) using Sample 1. Test of Chi-square differences ( $\Delta R\chi^2 = 85.05$ ,  $\Delta df = 19$ ) suggested the 10-item model (M1b;  $R\chi^2 = 40.30$ ,  $df = 34$ ; RCFI = .99, SRMR = .03, RMSEA = .03) significantly outperformed the 12-item model (M1a;  $R\chi^2 = 123.35$ ,  $df = 53$ ; RCFI = .94, SRMR = .07, RMSEA = .07), suggesting the 2 cross-loaded items should be removed.

To test the replicability of the identified factor structure and final items, we compared the same 12-item (M2a) and 10-item (M2b) models using Sample 2. Results were consistent that the 10-item model (M2b;  $R\chi^2 = 84.65$ ,  $df = 34$ ; RCFI = .95, SRMR = .07, RMSEA = .03) significantly outperformed the 12-item model (M2a;

**Table 1.** Summary of fit indices for all CFA models tested during the development of the Fear of Compassion in Sport Scale (FCSS).

Model	df	$R\chi^2$	RCFI	SRMR	RMSEA	Comparison	$\Delta R\chi^2$	$\Delta df$
<b>Sample 1 (n = 292)</b>								
M1a, 12 items 2-factor	53	123.35	.94	.07	.07			
M1b, 10 items 2-factor	34	40.30	.99	.03	.03	M1a vs. M1b	85.05	19
<b>Sample 2 (n = 291)</b>								
M2a, 12 items 2-factor	53	144.42	.91	.08	.06			
M2b, 10 items 2-factor	34	84.65	.95	.07	.05	M2a vs. M2b	59.07	19
<b>Sample 3 Time1 (n = 203)</b>								
10 items 2-factor	34	42.48	.99	.04	.04			
<b>Sample 3 Time2 (n = 160)</b>								
10 items 2-factor	34	72.36	.95	.08	.06			

df = degrees of freedom;  $R\chi^2$  = robust Chi-square; RCFI = robust comparative fit index; SRMR = standardised root mean square residual; RMSEA = root mean square error of approximation; both tests of Chi-square change were significant at .05 alpha level. Numbers in the parentheses indicate the final sample size involved in the CFA analyses.

$R\chi^2 = 144.42$ ,  $df = 53$ ; RCFI = .91, SRMR = .08, RMSEA = .06). Tables 1 and 2 display fit indices for all CFAs and factor loadings of the final FCSS items.

### Study 1: measurement invariance

We retained the 10-item 2-factor model based on the earlier CFA findings and tested the measurement invariance of the FCSS across genders, sport types, and participating levels (see Table 3 for all statistics). When assessing gender invariance (i.e., male vs female), model testing *configural invariance* achieved good to very good model fit (M3a;  $R\chi^2 = 136.01$ ,  $df = 68$ ; RCFI = .96, SRMR = .06, RMSEA = .04). *Metric invariance* was established by less than .01  $\Delta CFI$  with equivalent model fit. *Scalar invariance* was not supported due to over .01  $\Delta CFI$  from the baseline model. When assessing sport-type invariance (i.e., team vs individual sport), model testing *configural invariance* achieved good to very good model fit (M4a;  $R\chi^2 = 135.88$ ,  $df = 68$ ; RCFI = .96, SRMR = .06, RMSEA = .05), with support for considerable *metric* and *scalar invariance* based on less than .01  $\Delta CFI$  from the baseline model. When assessing invariance across different participating levels (i.e., recreational, regional, and national or above), *configural invariance* was supported (M5a;  $R\chi^2 = 167.78$ ,  $df = 102$ ; RCFI = .96, SRMR = .06, RMSEA = .05), with less than .01  $\Delta CFI$  from the baseline model when imposing constraints for testing *metric* and *scalar invariance*. As a supplement to Cheung and Rensvold's (2002) criterion for measurement invariance, we further performed a test of chi-square change to offer an alternative perspective (see Table 3). Results were consistent that measurement invariance was more robust across different sport types (i.e., non-significant Chi-square change between configural and metric models) and participating levels (i.e., non-significant Chi-square change between metric and scalar models) compared to

invariance in different gender groups (i.e., significant Chi-square change when imposing constraints for metric and scalar invariance). Overall, the findings provide evidence for considerable gender invariance and good sport type and competitive-level invariances of the FCSS.

### Study 1: concurrent and discriminant validity

Supporting concurrent validity of the FCSS, self-compassion was correlated significantly and negatively with fear of self-compassion in sport (Sample 1  $r = -.22$ ,  $p < .01$ ; Sample 2  $r = -.26$ ,  $p < .01$ ) and fear of compassion from others in sport (Sample 1  $r = -.16$ ,  $p < .01$ ; Sample 2  $r = -.25$ ,  $p < .01$ ), consistent with previous literature (e.g., Gilbert et al., 2011). Narcissistic vulnerability was correlated positively to fear of self-compassion in sport (Sample 1  $r = .27$ ,  $p < .01$ ; Sample 2  $r = .26$ ,  $p < .01$ ) and fear of compassion from others in sport (Sample 1  $r = .39$ ,  $p < .01$ ; Sample 2  $r = .39$ ,  $p < .01$ ). Collectively, these correlations support the FCSS subscales in predicting external criterion factors that are conceptually relevant (see Table 4).

Supporting the discriminant validity of the FCSS, results revealed strong, positive, but distinguishable correlations (i.e.,  $r < .90$ ; Vaughn & Daniel, 2012) between fear of self-compassion in sport and fear of self-compassion in general life, and between fear of compassion from others in sport and fear of compassion from other in general life (see Table 4 for all statistics). Additionally, paired t-test revealed that sports participants rated higher scores towards fearful feelings of self-compassion and lower scores towards fearful feelings of compassion from other when interpreting FCSS items in sport scenario compared to in general life, which provided further support to fears of compassion in sport assessed by FCSS as being both conceptually and empirically distinctive to fears of compassion in general life (see Table 5).

**Table 2.** Items and standardised factor loadings and error variances for the final Fears of Compassion in Sport Scale (FCSS).

Items	Sample 1		Sample 2		Sample 3 Time 1		Sample 3 Time 2	
	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1	Factor 2
(1) I fear that if I start to develop compassion for myself, I will become dependent on it.	.63(.51)		.62(.62)		.69(.53)		.73(.47)	
(2) I fear that if I become too compassionate to myself, I will lose my self-criticism and my flaws will show.	.76(.42)		.64(.59)		.76(.43)		.85(.27)	
(3) I fear that if I develop compassion for myself, I will become someone I do not want to be.	.84(.30)		.79(.38)		.79(.38)		.78(.39)	
(4) I fear that if I am more self-compassionate, I will become a weak person.	.78(.39)		.67(.56)		.73(.46)		.71(.50)	
(5) I try to keep my distance from others even if I know they are kind.		.65(.58)		.62(.56)		.64(.59)		.71(.50)
(6) Feelings of kindness from others are somehow frightening.		.81(.34)		.74(.46)		.76(.42)		.80(.35)
(7) If I think someone is being kind and caring towards me, I 'put up a barrier'.		.84(.29)		.79(.38)		.75(.44)		.83(.31)
(8) When people are kind and compassionate towards me, I feel anxious or embarrassed.		.74(.45)		.63(.61)		.78(.39)		.72(.48)
(9) If people are friendly and kind to me, I worry they will find out something bad about me that will change their mind.		.73(.47)		.64(.59)		.65(.57)		.72(.48)
(10) I worry that others are only compassionate to me if they want to take advantage from me.		.65(.58)		.70(.52)		.63(.61)		.71(.50)

All items were loaded significantly to the corresponding factor. Factor 1 = fear of self-compassion; Factor 2 = fear of compassion from others. Factor loadings and error variances are presented without and within parentheses, respectively.

### Study 1: internal consistency

Cronbach's alpha values ranged good to very good for FCSS subscales across both samples (see Table 4). Alpha values for the overall FCSS were also very good in both samples (i.e., Sample 1 = .86 and Sample 2 = .84). The findings support the internal consistency of the new instrument.

### Study 2: method

#### Study 2: participants

Sample 3 participants ( $N = 203$ , of which 78 were male) were from team ( $n = 112$ ; 30.45% football, 20.68% netball, 9.06% hockey) or individual ( $n = 91$ ; 23.2% running, 17.58% swimming, 10.25% cycling) sport, playing sport for recreational purposes ( $n = 135$ ), competing at regional ( $n = 50$ ), or national level and above ( $n = 18$ ), with an average age of 22.87 ( $SD = 2.33$ ) and 4.32 years of receiving sport training ( $SD = 3.53$ ). These participants were recruited from another longitudinal project of the authors, in which 160 participants completed a follow-up questionnaire after 3 months on completion of the baseline survey (see Study 2 Procedures). Among the 160 participants who completed two-waves of data collection, 56 were male, 69 were from individual

sport, 109 were playing sport for recreational purposes, with an average age of 22.72 ( $SD = 2.23$ ) and 4.26 years of receiving sport training ( $SD = 3.43$ ). We used this sample to establish evidence for test-retest reliability and predictive validity of the FCSS, as well as testing the replicability of factorial, concurrent, and discriminant validity and internal consistency from Study 1.

#### Study 2: measures

We used the 10-item FCSS developed in Study 1. To replicate evidence for concurrent and discriminant validity, we employed criterion measures identical to those used in Study 1, including SCSS, HSNS, and implementation of FCSS items for assessing fear of compassion in general life.

To establish evidence for predictive validity, we adopted the Kessler Psychological Distress Scale-Short (K6; Kessler et al., 2002). The K6 is a six-item self-report measure designed as a quick tool to assess risk of psychological distress in the general population. It contains six items describing different feelings or experiences of psychological distress (e.g., "... restless or fidgety") and asks participants to indicate how often they have had any of the described feelings or experiences during the past 30 days. Participants rated the K6



**Table 3.** Summary of fit indices for test of measurement invariance between male and female and between team and individual sport.

Model	df	R $\chi^2$	RCFI	SRMR	RMSEA	Comparison	$\Delta R\chi^2$	$\Delta df$
<b>Sex (male, female)</b>								
M3a configural invariance	68	136.01	.96	.06	.04	M1a vs. M1b	22.29	8
M3b metric invariance	76	157.42	.95	.06	.05	M1a vs. M1c	53.76	16
M3c scalar invariance	84	186.66	.94	.07	.06	M1b vs. M1c	31.65	8
<b>Sport (team, individual)</b>								
M4a configural invariance	68	135.88	.96	.06	.05	M2a vs. M2b	6.26(ns)	8
M4b metric invariance	76	142.82	.96	.06	.05	M2a vs. M2c	30.39	16
M4c scalar invariance	84	166.44	.95	.06	.05	M2b vs. M2c	25.25	8
<b>Level (recreational, regional, and national or above)</b>								
M5a configural invariance	102	167.78	.96	.06	.05	M3a vs. M3b	44.47	16
M5b metric invariance	118	209.21	.95	.06	.07	M3a vs. M3c	65.09	32
M5c scalar invariance	134	231.10	.95	.06	.07	M3b vs. M3c	20.91(ns)	16

df = degrees of freedom; R $\chi^2$  = robust chi-square; RCFI = robust comparative fit index; SRMR = standardised root mean square residual; RMSEA = root mean square error of approximation; ns = non-significant chi-square change at .05 alpha level.

**Table 4.** Correlations of the fear of compassion in sport with self-compassion, vulnerable narcissism and fear of compassion in general life.

	Sample 1		Sample 2		Sample 3 Time1		Sample 3 Time2	
	FSC-S	FCO-S	FSC-S	FCO-S	FSC-S	FCO-S	FSC-S	FCO-S
(1) SCSS	-.22	-.16	-.26	-.25	-.25	-.26	-.35	-.35
(2) HSNS	.27	.39	.26	.39	.20	.43	.17	.28
(3) FSC-G	.85	.48	.84	.38	.81	.42	.85	.57
(4) FCO-G	.39	.84	.40	.83	.35	.76	.49	.79
(5) PDS Time 1					.25	.38	.23	.33
(6) PDS Time 2					.25	.39	.32	.46
<b>Cronbach's alpha</b>	.84	.87	.76	.84	.88	.85	.90	.88

FSC-S = fear of self-compassion in sport; FCO-S = fear of compassion from others in sport; SCSS = self-compassion scale-short; HSNS = hypertensive narcissistic personality scale; FSC-G = fear of compassion in general life; FCO-G = fear of compassion from others in general life; PDS = psychological distress scale. All correlations were significant at .01 alpha level.

items on a 5-point Likert scale ranging from 0 (*none of the time*) to 4 (*all of the time*). We calculated mean scores for the K6, with higher scores indicating more severe psychological distress.

### Study 2: procedures

With institutional approval (ethics number ETH2122–3318), we built an online survey via Qualtrics and advertised it through social media and via email to sport science students in UK universities. The online survey contained full study information, consent, all the measures described in the previous section, and a debriefing statement. We offered 10 £10 Amazon vouchers as lucky draw prizes for those who completed all the baseline and follow-up surveys. Each data collection window lasted for a full calendar month, with an inviting email sent at the beginning of each data collection window and a reminder email delivered 1 week prior to closing each survey. The retention rate of participants from baseline (Time 1) to follow-up (Time 2) over a three-month interval was approximately 62% (i.e., 38% missing or drop out at

Time 2). On average, participants took about 17–18 min to complete the surveys.

### Study 2: data analysis

We used the same statistical programs as Study 1 for data processing and analysis. To further examine the factorial, concurrent, and discriminant validity of the 10-item FCSS, we performed identical analysis (i.e., CFA, correlation and Cronbach's alpha) as in Study 1. We also performed the same paired t-test as in Study 1 to examine difference in participants fears of compassion in sport compared to in general life. Further to examining replicability of FCSS's psychometric properties, we performed a test-retest reliability of the 10-item FCSS and conducted a cross-lagged panel analysis (see Stenling et al., 2016) to examine the predictive validity of the FCSS (i.e., the extent to which FCSS at Time 1 predicts psychological distress at Time 2). We hypothesised that baseline FCSS would predict increased psychological distress among athletes at follow-up, after controlling for the synchronous correlations of FCSS and psychological distress at each timepoint and the

**Table 5.** Within-person differences between fears of compassion in sport and fears of compassion in general life among sport participants.

	Mean	SD	<i>t</i>	<i>se</i>	<i>p</i>	95% CI	Cohen's <i>d</i>
Sample 1: FSC-S – FSC-G	.24	.54	7.40	.03	.00	[.17, .30]	.54
Sample 1: FCO-S – FCO-G	–.09	.58	–2.70	.03	.01	[–.16, –.02]	.58
Sample 2: FSC-S – FSC-G	.17	.49	5.94	.03	.00	[.12, .23]	.50
Sample 2: FCO-S – FCO-G	–.19	.55	–5.95	.03	.00	[–.25, –.13]	.55
Sample 3 Time 1: FSC-S – FSC-G	.21	.58	5.23	.04	.00	[.13, .29]	.58
Sample 3 Time 1: FCO-S – FCO-G	–.09	.60	–2.20	.04	.03	[–.18, –.01]	.60
Sample 3 Time 2: FSC-S – FSC-G	.12	.56	2.64	.04	.01	[.03, .20]	.56
Sample 3 Time 2: FCO-S – FCO-G	–.12	.60	–2.48	.05	.01	[–.21, –.02]	.60

SD = standard deviation; *se* = standard error; CI = confidence interval; Cohen's *d* = standardised mean difference for measuring effect size of mean difference, with .2, .5, .8 and above representing small, medium and large effect, respectively. FSC-S = fear of self-compassion in sport; FCO-S = fear of compassion from others in sport; FSC-G = fear of compassion in general life; FCO-G = fear of compassion from others in general life.

autoregressive effect of both variables (e.g., Time 1 FCSS on Time 2 FCSS). As was in Study 1, FIML estimator was used to address missing data at Time 2.

## Study 2: results

### Study 2: replication of study 1 findings

CFA results suggested that the factor structure and goodness of model fit were replicable in Sample 3 at both time points (see Table 1), with similar factor loadings and error variance across all samples (see Table 2). The Cronbach's alpha values and correlations of FCSS subscales with self-compassion, vulnerable narcissism, and fear of compassion in general life computed using Sample 3 at both time points were very good to excellent (see Table 4). As was found in Samples 1 and 2, sport participants were more fearful of self-compassion but less fearful of compassion from others in sport versus in daily life (see Table 5).

### Study 2: test-retest reliability

Test-retest reliability over 3-month time using Cronbach's alpha was .76 and .71 for the FCSS fear of self-compassion subscale and the fear of compassion from other subscales, respectively. The intraclass correlation coefficient was .61 and .55 for the two FCSS subscales for fear of self-compassion subscale (FSC-S) and the fear of compassion from other subscales (FCO-S), respectively, suggesting 39–45% variance in FCSS scores over the three-month test-retest period was accounted for by within-level variation (i.e., change over time).

### Study 2: predictive validity

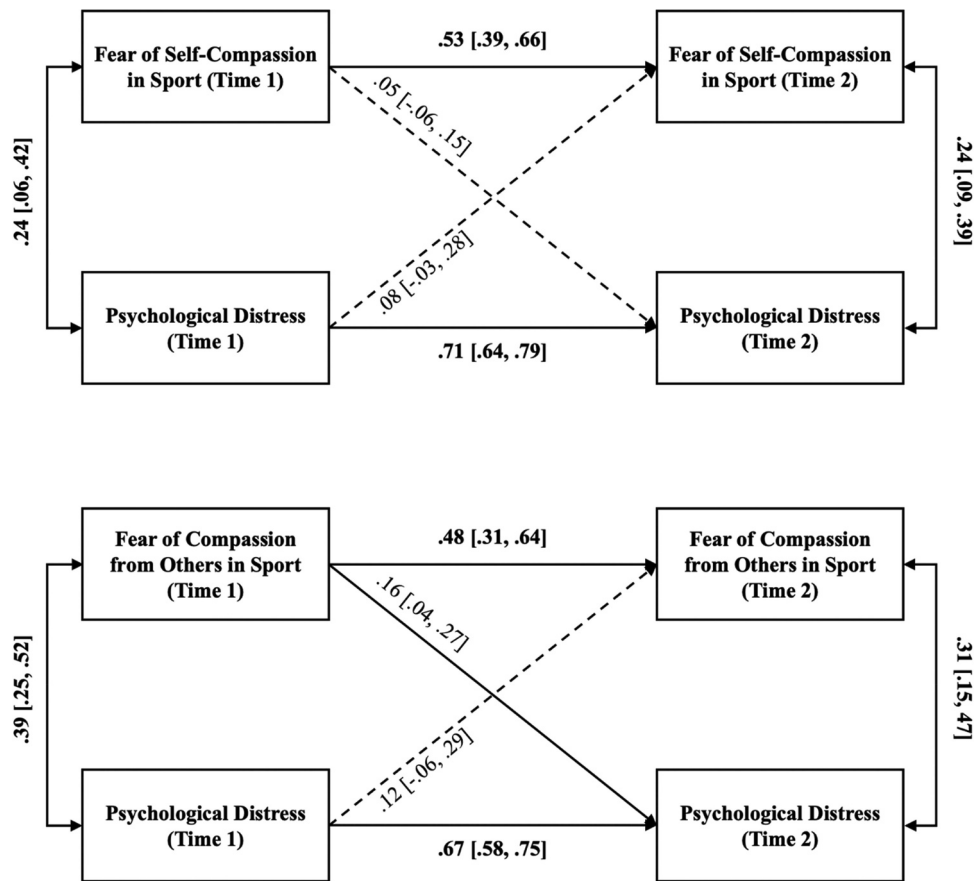
Correlation analyses revealed a positive, small-to-medium association between fear of self-compassion in sport at baseline (Time 1 FSC-S) and psychological

distress at three-month follow-up (Time 2 PDS), and a positive, medium-to-large correlation of fear of compassion from others in sport at baseline (Time 1 FCO-S) with PDS at Time 2. Table 4 displays all the statistics for these correlations.

Importantly, cross-lagged panel analysis revealed a significant effect of Time 1 FCO-S on Time 2 PDS ( $\beta = .16, p = .01$ ; 95% CI [.04, .27]), but a non-significant effect of Time 1 FSC-S on Time 2 PDS ( $\beta = .05, p = .31$ ; 95% CI [–.06, .15]) after controlling for strong autoregressive effects of all study variables across time and moderate synchronous correlations between study variables within each time point. Additionally, Time 1 PDS did not predict Time 2 FSC-S and Time 2 FCO-S. Figure 1 illustrates the cross-lagged panel analyses for FSC-S and PDS (top) and for FCO-S and PDS (bottom) across two time points separated by 3 months, with all standardised coefficients and 95% confidence intervals displayed.

## General discussion

Research has demonstrated the benefits of embracing a compassionate mind in competitive sport, and attention has been called to implementing compassion-focused practices to facilitate the development and well-being of competitive athletes (Mosewich, Ferguson, et al., 2019). However, to date, research directly investigating fears of compassion in sport contexts is still rare and has exclusively focused on self-compassion with little attention to receiving compassion. The scarcity of research (especially that adopting quantitative methods) in this area is probably due to the lack of a valid psychometric measure that can reliably assess fears of compassion in sport. Therefore, we sought to develop a psychometrically robust instrument, the *Fears of Compassion in Sport Scale* (FCSS).



**Figure 1.** Cross-lagged panel analysis of fear of self-compassion in sport (top) and fear of compassion from others in sport (bottom) in predicting psychological distress over a three-month period in sport participants. Solid lines represent significant path or relationship. Dotted lines represent non-significant path. Standardised coefficients and 95% confidence interval are displayed.

### Research highlights

In two studies, we established evidence for very good factorial, concurrent, discriminant validity and internal consistency (all three samples), good to very good measurement invariance (samples 1 and 2) and good test–retest reliability and predictive validity (sample 3). Consistent with the literature and hypotheses, FCSS scores were negatively associated with compassion and associated positively with vulnerable narcissism and psychological distress. Overall, the FCSS is a valid and reliable psychometric measure that assesses fears of compassion in sport.

Apart from establishing evidence for sound psychometric properties of the FCSS, the current research also revealed an important phenomenon that sport participants were more fearful of self-compassion but less fearful of receiving compassion in sport contexts compared to in general life. This finding, whilst further supporting the distinction between fears of compassion in sport and in general life, suggests that it is crucial to consider fears of compassion as a context-specific construct.

Furthermore, the heightened fear of self-compassion, in contrast to a more relaxed attitude towards receiving compassion among athletes, brings up some important messages for sport and compassion researchers and practitioners. Specifically, since dominant norms such as the sport ethic dictates athletes to strive for exceptional performance (Hughes & Coakley, 1991), athletes, especially those high in competitiveness, maybe particularly prone to fear of being self-compassionate because embracing a self-compassionate mind makes them to appear weak and unable to keep the dominating motto (i.e., Faster, Higher and Stronger) in sporting world (cf. Ferguson et al., 2014; Sutherland et al., 2014). However, compassion from others may be less concerning to athletes and those high in competitiveness because receiving compassion, or any form of support from others, is less violating to one's personal, competitive standards and may even be welcomed by athletes. This is particularly true when one uses support recourses from others as useful resources to strive for

higher-level performance. As researchers and practitioners have seen barriers to implementing self-compassion in sport (Mosewich, Ferguson, et al., 2019), working on fostering a climate of giving compassion to others and promoting strategies to receive and make good use of compassion from others can be a promising direction for compassion-focused practice in sport and other competitive settings (e.g., see Oliveira et al., 2022 for receiving compassion from coach and the associated mental health in athletes).

### **Practical implications**

We call for researchers and practitioners to consider the below points when employing the FCSS. First, the FCSS appeared very good in measurement invariance for both individual and team sport players and for players participating in sport at different levels, thus is psychometrically robust for making comparisons amongst players who differ in type of sport and participating level. However, evidence for measurement invariance of FCSS was relatively weaker when comparing male and female players. Although the FCSS factor structure was good and stable across both gender groups (good configural invariance), factor loadings and construct variance and covariance may vary between male and female participants (unsatisfied metric and scalar invariance) (see Byrne, 2012). This means that the weighting of FCSS items may vary between gender subgroups, and male and female players may not necessarily interpret FCSS items in the same way. As such, researchers and practitioners should be cautious if they are interested in quantifying gender differences when using FCSS.

Second, it is noteworthy that the FCSS captures the more trait-like aspect of fears of compassion in sport and may be less sensitive to capture change over time or the state-like aspect of the construct. Consistent with this, our test–retest reliability assessment suggested that the 39–45% variance in FCSS scores over 3 months was accounted for by within-level variation (i.e., change over time), whilst the large, remaining variance or change in FCSS scores among the participating athletes was due to individual differences at a trait level. Although this finding should not undermine the practical value of the FCSS, researchers and practitioners should allow a reasonable time to observe the change in FCSS scores for tracking and monitoring purposes.

Also, when assessing the influences of fears of compassion in sport, one should consider the potential confounding effects of vulnerable narcissism. Indeed,

vulnerable narcissism likely plays a role in the performance and interpersonal relationship in sport (Roberts et al., 2018) and magnifies sport-related problems such as muscle dysmorphia (Boulter & Sandgren, 2022) and intentional doping (Zhang & Boardley, 2022). With a close-to-moderate relationship between fear of self-compassion in sport and vulnerable narcissism and a moderate-to-large association between fear of receiving compassion from others in sport and vulnerable narcissism, it may be important to partial out the effects of individuals' personality trait of vulnerable narcissism for more accurate estimation of the influences of fears of compassion in sport. Alternatively, one could consider fears of compassion in sport as a possible mediator or moderator when assessing individual differences in vulnerable narcissism in sport.

Finally, researchers and practitioners embracing compassion in sport should not exaggerate or demonise the harms of fear of self-compassion but pay more attention to the fear of receiving compassion from others. Although the correlational findings indicate that both facets of FCSS are risk factors for mental health problems in sport, similar to previous findings regarding the relationship between fears of compassion and psychological distress (e.g., Matos et al., 2021), it was fear of receiving compassion from others, rather than fear of self-compassion which predicted psychological distress over 3 months. This relationship remained even after controlling for the association of FCSS facets and psychological distress at each time point and the change of scores in FCSS facets and psychological distress over time. Although this novel finding does not replicate knowledge from the general, non-sport population that *both* fears of self-compassion and compassion from others amplify mental health problems (Gilbert et al., 2011), the novel finding can perhaps be explained. Athletes who are more fearful of compassion expressed by others perhaps put up a greater barrier to receiving social support and are thus less likely to establish resources for resilient coping (Fletcher & Arnold, 2017). Alleviating fear of receiving compassion and promoting a more accepting mind to compassion expressed by others, therefore, should be considered a central practice of integrating compassion in sport.

### **Limitations and future directions**

Despite demonstrating robust concurrent, discriminant, and predictive validity, we were unable to examine the convergent validity of the FCSS due to the lack of a suitable comparison measure in sport based on

literature criteria (i.e., the new instrument should correlate at least moderately with instrument assessing variables within the target construct's nomological network; see Vaughn & Daniel, 2012). Nevertheless, we appreciate that our test of discriminant validity may offer partial support to the convergent validity of the FCSS, given a strong correlation of scores on fear of compassion in sport with scores on fear of compassion in general life. We did acknowledge that the high correlation between fear of compassion in sport settings and in general life domains may be due to inflated common method variance (Chang et al., 2010). Future research could consider a more comprehensive test of FCSS convergent validity and perhaps establish more evidence for the context-specific nature of fears of compassion by comparing situational fluctuation in such fears under different settings (e.g., sport, school, workplace, etc.).

Also, the use of a three-month period when assessing test-retest reliability is much longer than the standard 2-week time recommended by previous literature (e.g., Nevill et al., 2001). This may underestimate the test-retest reliability of the new instrument and magnify within-person change due to the extended test-retest period. However, P. Kline (1993) argued that a gap of 2 weeks is prone to recall bias, and a minimum of a three-month period should be considered for less biased testing of measurement consistency over time. The operation of a three-month test-retest period thus offered some benefits (i.e., less biased reliability score and more precise estimation of within-person fluctuation). Future research should consider examining longitudinal influences of fear of compassion on sport-related outcomes and investigating the precursor(s) of changes in fear of compassion, of which the new knowledge will benefit the development of evidence-based interventions for integrating compassion-focused practices in sport.

Additionally, while containing a context-specific definition of compassion in sport to facilitate athletes' assessment of fears of compassion, the FCSS items do not contain any narratives or descriptions matching sporting and performance scenarios. Future research would do well to adopt qualitative methods to understand situational-specific fears of compassion in sport and, based on that, to develop a valid, state measure of fears of compassion in sport.

## Conclusion

Through three independent samples, we developed the first instrument for assessing fears of compassion in sport (FCSS). Given the evidence for construct validity,

measurement invariance, internal consistency, and test-retest reliability established via a rigorous process, we believe the new instrument is a promising measure for future quantitative research on compassion in sport. The FCSS makes a particular contribution to the important but overlooked area of sport compassion research, especially in offering a psychometric tool to research the influences of fears of compassion and how such fears may interplay with other risk and protective factors in sporting contexts. We look forward to seeing the new instrument employed in the future research.

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## Data availability statement

The data that support the findings of the research are not publicly available due to ethics restriction. The data and codes for analysis can be requested for research purposes on reasonable request from the corresponding authors.

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