**Key Points**

* Compassionate mind training offers emotion regulation benefits and is known to facilitate athletes in establishing and maintaining mental health.
* However, athletes have raised concerns over embracing compassion because they are fearful of becoming mediocre by adopting a compassionate mind.
* 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.
* 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, and test-retest reliability of the instrument.
* Measurement invariance was ﻿good for different sport types and participating levels but weaker for comparing male and female athletes.
* Cross-lagged panel analysis revealed fear of compassion from others (not fear of self-compassion) is a prominent risk factor for athletes’ psychological distress.

**Abstract**

Research suggests that self-compassion might offer a protective factor against psychological distress to athletes. However, qualitative research suggests that athletes are fearful of compassion. To date, fears of compassion have not received much quantitative investigation in athletes. The current study adapted an existing measure of fears of compassion (Gilbert et al., 2011) to measure context-specific fear of self-compassion (FSC) and receiving compassion from others (FCO) in a sport. The psychometric properties of the adapted scale were assessed across three samples of sport participants in the UK (Sample 1 N = 292, Sample 2 N = 297, Sample 3 N = 203). The new instrument demonstrated very good factorial validity, measurement invariance (especially across sport types and participating levels), concurrent, discriminant and predictive validity, internal consistency, and good test-retest reliability. Results indicated that both FSC and FCO in sport were negatively associated with self-compassion and associated positively with narcissistic vulnerability and psychological distress. Meanwhile, sport participants were more fearful of self-compassion but less fearful of receiving compassion in sport context compared to in general life. However, it was FCO, not FSC, predicted psychological distress at three months follow-up after controlling for changes over time. The new instrument offers researchers and practitioners a way to assess fears of compassion in athletes, providing new knowledge in the roles of different fears of compassion in sport and insights into integrating compassion in sport.

*Keywords*: Compassion, fears of compassion, psychological distress, vulnerability, sport

**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**

The way to becoming 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 mental health problems (Åkesdotter et al., 2020). While mental health can be a challenge to sport talent, 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 of 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 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 experience rather than avoiding or disconnecting from it (Neff, 2003). Self-compassion can allow an individual to see any negative event as part of common life experience and respond in a less critical, non-judgmental, and more accepting approach, with a motivation to take actions 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 toward oneself, with athletes high in self-compassion: being more capable of getting through emotionally difficult times in sport (Ferguson et al., 2015), demonstrating superior stress response and coping (Mosewich 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 toward oneself (Eke et al., 2020).

Despite self-compassion being associated with greater mental health in sport, some athletes devalue or are fearful of compassion. For example, in Ferguson et al.’s (2014) qualitative study of eleven 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 six elite athletes from different sports revealed similar findings – despite the agreement for the potential benefits and one’s need of 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 fear of compassion is vital to integrating compassion related practices in sport (Mosewich 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 in sport specific contexts. The lack of information to compare 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). For example, there is evidence that those who value competitiveness and are operating within competitive contexts, devalue and fear compassion (Basran et al., 2019). Therefore, the primary objective of this study was to provide valid and reliable assessment of fears of compassion in sport specific contexts and investigate how such fears manifest and vary between sport and general life domains.

To allow 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 has been extensively studied in the general population and in mental health settings where these fears are often elevated, through use of the Fears of Compassion Scale (FCS; Gilbert et al., 2011). However, instructions in the Gilbert et al.’s original scale was not compatible to sporting contexts and 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, the 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.’s (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 fear of self-compassion and fear of receiving compassion from others, rather than 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 et al., 2019) and predicts increased risk of psychological distress (Walton et al., 2020). Therefore, we excluded the fears of compassion for others subscale when adapting Gilbert et al.’s (2011) scale to the Fears of Compassion in Sport Scale (FCSS).

To summarise, in the present research we adapted Gilbert et al.’s (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 the Study 1 (Sample 1 N = 292, Sample 2 N = 297) for examining 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) for assessing replicability of Study 1 findings and examining test-retest reliability and predictive validity of the FCSS using data from 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.’s (2011) fear of self-compassion and fear of receiving compassion from others 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 compassion 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 eleven years’ coaching experience, eleven athletes (of which six were female) who were competing at university level and above at the time of study, and two sport psychologists (both were male) with over ten 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 instruction to the FCSS. The definition we provided was:

*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, female), sport type (i.e., team, 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, 6.13% netball) or individual (n = 68; 11.59% badminton, 11.16% swimming, 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.’s (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) thus support discriminant validity (see Vaughn & Daniel, 2012).

To evaluate 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, Pommier, Neff, & Gucht, 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.’s (2011) found dispositional self-compassion to be associated negatively and weakly to fears of compassion. We therefore anticipated that the FCSS items and any of its 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 for 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 minutes 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, 2015). Prior to factor analysis, we conducted Bartlett’s test of sphericity and a Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. A significant Bartlette’s test and over .80 KMO indicate 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, fear of compassion from others) of Gilbert et al.’s (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 ≥ 1.00 and comparison of model fit indices. Following the recommendation (Kline, 2016), we used Geomin (i.e., an oblique type of rotation) for the EFA, which allows the factors to correlate with each other and 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 will then test 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. Following recommendations (Hu & Bentler, 1999), Chi-square (*χ*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 ≥.95 CFI, ≤ .08 SRMR, ≤ .06 RMSEA, indicate 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 across groups), and *scalar* invariance (i.e., equivalence of construct variance and covariance across groups). We tested invariance by progressively imposing the appropriate constraints to the identified model and examined ∆CFI at each step when imposing constraints for assessing the three levels of invariance(see Byrne, 2012). Following guidance (Cheung & Rensvold, 2002), ∆CFI values of less than .01 change indicating invariance when imposing the relevant constraints (i.e., configural, metric, 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 (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 (𝜒2 = 1540, *df* = 66, *p* = .00) and the KMO was .90, which suggest appropriateness for further factor analysis. Analysis of EFA models using Sample 1 supported a 2-factor model of the FCSS, with 4 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 2 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 2-facotr structure of the FCSS but also compare the model fit for models with and without the cross-loaded items (Kline, 2016). We therefore retained the 2-factor structure and compared 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 2-factor model with all initial FCSS items (M1a – 6 items loaded to fear of self-compassion, 6 items loaded to fear of compassion from others) and a 2-factor model with cross-loaded items removed (M1b – 4 items loaded to fear of self-compassion, 6 items loaded to fear of compassion from others) using Sample 1. Test of Chi-square differences (∆R𝜒2 = 85.05, ∆*df* = 19) suggested the 10-item model (M1b; R𝜒2 = 40.30, *df* = 34; RCFI = .99, SRMR = .03, RMSEA = .03) significantly outperformed the 12-item model (M1a; R𝜒2 = 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 (Mab; R𝜒2 = 84.65, *df* = 34; RCFI = .95, SRMR = .07, RMSEA = .03) significantly outperformed the 12-item model (M2a; R𝜒2 = 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 CFAs findings and tested 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; R𝜒2 = 136.01, *df* = 68; RCFI = .96, SRMR = .06, RMSEA = .04). *Metric invariance* was established by less than .01 ∆CFI with equivalent model fit. *Scalar invariance* was not supported due to over .01 ∆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; R𝜒2 = 135.88, *df* = 68; RCFI = .96, SRMR = .06, RMSEA = .05), with support for considerable *metric* and *scalar invariance* based on less then .01 ∆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; R𝜒2 = 167.78, *df* = 102; RCFI = .96, SRMR = .06, RMSEA = .05), with less then .01 ∆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 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 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).

**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 overall FCSS were also very good in both samples (i.e., Sample 1 = .86, Sample 2 = .84). The findings support 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 three 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 that 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 6-item self-report measure designed as a quick tool to assess risk for psychological distress in 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 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 debriefing statement. We offered ten £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 one 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%. On average, participants took about 17-18 minutes to complete the surveys.

**Study 2: Data analysis**

We used the same statistical programmes as Study 1 for data processing and analysis. To further examine factorial, concurrent, and discriminant validity of the 10-item FCSS, we performed identical analysis (i.e., CFA, correlation, 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 test-retest reliability of the 10-item FCSS and conducted a cross-lagged panel analysis (see Stenling et al., 2016) to examine 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 autoregressive effect both variables (e.g., Time 1 FCSS on Time 2 FCSS) in the cross-lagged panel analysis.

**Study 2: Results**

**Study 2: Replication of Study 1 findings**

CFA results suggested 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 the 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 three-month time using Cronbach’s alpha was .76 and .71 for the FCSS fear of self-compassion subscale and the fear of compassion from others subscale, respectively. 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 others subscale (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 statistics for these correlations.

Importantly, cross-lagged panel analysis revealed a significant effect of Time 1 FCO-S on Time 2 PDS (*β* = .16, *p* = .01; 95% CI [.04, .27]), but a non-significant effect of Time 1 FSC-S on Time 2 PDS (*β* = .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 three months, with all standardized coefficients and 95% confidence intervals displayed.

**General discussion**

Research has demonstrated the benefits of embracing compassionate mind in competitive sport, and attention has been called to implementing compassion-focused practices to facilitate development and wellbeing of competitive athletes (Mosewich et al., 2019). However, to date, fears of compassion in a sport contexts have only been documented in qualitative literature (i.e., Ferguson et al., 2014; Sutherland et al., 2014) and exclusively focused on self-compassion with little attention to receiving compassion. The scarcity of quantitative research 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).

**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 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 more relaxed attitude towards receiving compassion among athletes brings up some important messages for sport and compassion researchers and practitioners. It is possible athletes, and those in competitive and performance settings, in fact ‘silently’ yearn for receiving compassion from others especially under difficult, challenging situations. 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, are particularly prone to fear of being self-compassionate because embracing self-compassionate mind makes them to appear weak and unable to keep the dominating motto (i.e., Faster, Higher, Stronger) in sporting world. However, compassion from others can be less concerning to athletes and those high in competitiveness because receiving compassion, or any form of support from others, is violating to one’s personal, competitive standards and may be even welcomed by athletes. This is particularly true when one uses compassion and related support from others as useful resources to strive for higher-level performance. As researchers and practitioners have seen barriers for implementing self-compassion in sport (Mosewich 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.

**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 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 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 were interested in quantifying gender differences when using FCSS.

Second, it is noteworthy that the FCSS captures 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 three months was accounted for by within-level variation (i.e., change over time) whilst the remaining variance or change in FCSS scores among the participating athletes was due to individual difference 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 change in FCSS following an intervention or for tracking and monitoring purposes.

Also, when assessing 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 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 is 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 of vulnerable narcissism in sport.

Finally, researchers and practitioners embracing compassion in sport should not exaggerate or demonize harms of fear of self-compassion but pay more attention to 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 three 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 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 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 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 establishing 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 three-month period when assessing test-retest reliability is much longer than standard two-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 extended test-retest period. However, Kline (1993) argued that a gap of two weeks is prone to recall bias, and a minimum of three-month period should be considered for less biased testing of measurement consistency over time. The operation of three-month test-retest period thus offered some benefits (i.e., less biased reliability score, 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, situational specific 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 future research.

**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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**Table 1**

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

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Model** | ***df*** | **R𝜒2** | **RCFI** | **SRMR** | **RMSEA** | **Comparison** | **∆R𝜒2** | **∆*df*** |
| **Sample 1 (n = 292)** |  |  |  |  |  |  |  |  |
| 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 |
|  |  |  |  |  |  |  |  |  |
| **Sample 2 (n = 291)** |  |  |  |  |  |  |  |  |
| 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 |
|  |  |  |  |  |  |  |  |  |
| **Sample 3 Time1 (n = 203)** |  |  |  |  |  |  |  |  |
| 10 items 2-factor | 34 | 42.48 | .99 | .04 | .04 |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **Sample 3 Time2 (n = 160)** |  |  |  |  |  |  |  |  |
| 10 items 2-factor | 34 | 72.36 | .95 | .08 | .06 |  |  |  |

*Note*. *df* = degrees of freedom; R𝜒2=robust Chi-square; RCFI=robust comparative fit index; SRMR = standardized 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.

**Table 2**

Items and standardized 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) |  |
| 1. 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) |  |
| 1. 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) |  |
| 1. I fear that if I am more self-compassionate, I will become a weak person.
 | .78(.39) |  | .67(.56) |  | .73(.46) |  | .71(.50) |  |
| 1. I try to keep my distance from others even if I know they are kind.
 |  | .65(.58) |  | .62(.56) |  | .64(.59) |  | .71(.50) |
| 1. Feelings of kindness from others are somehow frightening.
 |  | .81(.34) |  | .74(.46) |  | .76(.42) |  | .80(.35) |
| 1. If I think someone is being kind and caring towards me, I ‘put up a barrier’.
 |  | .84(.29) |  | .79(.38) |  | .75(.44) |  | .83(.31) |
| 1. When people are kind and compassionate towards me, I feel anxious or embarrassed.
 |  | .74(.45) |  | .63(.61) |  | .78(.39) |  | .72(.48) |
| 1. 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) |
| 1. 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) |

*Note*. 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.

**Table 3**

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

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Model** | ***df*** | **R𝜒2** | **RCFI** | **SRMR** | **RMSEA** | **Comparison** | **∆R𝜒2** | **∆*df*** |
| **Sex (male, female)** |  |  |  |  |  |  |  |  |
| 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 |
|  |  |  |  |  |  |  |  |  |
| **Sport (team, individual)** |  |  |  |  |  |  |  |  |
| 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 |
|  |  |  |  |  |  |  |  |  |
| **Level (recreational, regional, and national or above)** |  |  |  |  |  |  |  |  |
| 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 |

*Note*. *df* = degrees of freedom; R𝜒2=robust Chi-square; RCFI=robust comparative fit index; SRMR = standardized 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 |
| 1. HSNS
 | .27 | .39 | .26 | .39 | .20 | .43 | .17 | .28 |
| 1. FSC-G
 | .85 | .48 | .84 | .38 | .81 | .42 | .85 | .57 |
| 1. FCO-G
 | .39 | .84 | .40 | .83 | .35 | .76 | .49 | .79 |
| 1. PDS Time 1
 |  |  |  |  | .25 | .38 | .23 | .33 |
| 1. PDS Time 2
 |  |  |  |  | .25 | .39 | .32 | .46 |
| **Cronbach’s alpha** | .84 | .87 | .76 | .84 | .88 | .85 | .90 | .88 |

*Note.* 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.

**Table 5**

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Mean** | **SD** | ***t*** | ***se*** | ***p*** | **95% CI** | **Cohen’s *d*** |
| **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 |

*Note.* SD = standard deviation; *se* = standard error; CI = confidence interval; Cohen’s *d* = standardized 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.

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**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. Standardized coefficients and 95% confidence interval are displayed.