

Go soft or go home? A scoping review of empirical studies on the role of self-compassion in the competitive sport setting

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ABSTRACT

Self-compassion describes a supportive attitude towards oneself. Research outside the sport context suggests that self-compassion might be beneficial in terms of psychological processes that are helpful for athletic performance. At the same time, there are reasons to assume that athletes may fear a negative influence of SC on their self-improvement motivation. Therefore, it seemed worthwhile to clarify the role of self-compassion in the competitive sport setting by reviewing the current research. The aim of this scoping review is to give an overview of the current literature on SC in competitive sports and to answer the question, whether SC is helpful for competitive athletes. A literature search was conducted using PsycINFO, PsycARTICLES, PSYINDEX, and SPORTDiscus. Eligibility criteria were peer-reviewed publication, publication in English, original research and research investigating self-compassion in competitive athletes. From 17 publications that met the inclusion criteria, we identified 19 studies, most of which were quantitative, employing a cross-sectional design. Additionally, we found only one intervention study, one experimental study and four qualitative studies using interviews. We provided an integrative narrative description of the study aims, hypotheses, methodological characteristics and study results. Based on the reviewed findings we concluded that in the future more intervention and longitudinal studies are needed. Furthermore, a comprehensive theoretical framework should be developed, which explains how SC is beneficial for athletes. Thus far, qualitative studies highlight the potential ambivalence of athletes towards SC (i.e., they expect benefits after failures but fear that too much SC leads to mediocrity). Quantitative research indicates that SC is beneficial for athletes' well-being and their ability to deal with adversities in sports, whereas the role of self-compassion for self-improvement motivation remains unanswered.

Keywords:

Self-compassion – self-worth – competitive sport – self-improvement motivation – athlete

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Introduction

In this article, we will review the current state of research of self-compassion (SC) in the competitive sport setting. SC describes a supporting attitude towards oneself, and includes self-kindness, common humanity and mindfulness (Neff, 2003b). Self-kindness includes being kind and understanding to oneself, as well as desiring one's well-being and taking a non-judgmental

stance towards oneself rather than being self-critical of one's perceived flaws and weaknesses. Common humanity involves being conscious that difficult experiences are shared by all human beings rather than feeling disconnected from others. Mindfulness means being open to and aware of one's psychological pain and taking a well-balanced approach to negative experiences so that painful feelings are neither avoided nor exaggerated.

In order to establish the concept of SC it was important to distinguish it from related concepts in order to counter the criticism that SC is nothing-new (Neff, 2003b). Self-esteem was the concept that was most in focus in this process of conceptualizing SC, because, just like SC, self-esteem is considered to be a helpful way of relating to oneself (Neff, 2003b). Neff argued that whereas SC is based on self-acceptance, self-esteem is rooted in self-evaluation and perceived evaluation of others (Neff, 2003b; Neff & Vonk, 2009). It can be difficult to maintain one's sense of self-esteem when one is constantly involved in self-evaluation or social comparison and some individuals tend to adopt maladaptive strategies to protect their basic psychological need for self-esteem (e.g., by being narcissistic, Grawe, 2004). In contrast, it might be healthier to preserve self-acceptance and SC, which does not depend on how a person thinks of oneself compared to others or to external standards (Neff, 2003a, 2003b). Nevertheless, self-esteem and SC show a positive correlation and are usually both positively linked with indicators of psychological health (Neff, 2003b). Because SC partly overlaps with self-esteem, empirical studies that investigated SC controlled for self-esteem to determine whether SC alone causes effects of an outcome. Some studies show that the two concepts explain unique effects on different outcomes (Barnard & Curry, 2011). For example, a diary study showed that SC and self-esteem are positively related to positive affect; when controlling for self-esteem, SC just remained significantly associated with positive affect, whereas self-esteem was no longer associated with positive affect after controlling for SC (Krieger, Hermann, Zimmermann, & grosse Holtforth, 2015).

SC is a concept that many people would associate with "soft" or even "weak" (Gilbert, 2011). This association – at a first glance – does not match our picture of elite athletes who are thought to be "hard" and "tough". In addition, competitive sports often takes place in environments where achievement is measured extensively, extremely high standards are normal, and showing no weakness is seen as a virtue (Birrer & Morgan, 2010). Therefore, SC might be considered to be irrelevant for the work of sport psychologists. However, this opinion is questioned by findings from other fields: SC has been shown to be beneficial in clinical psychology (MacBeth & Gumley, 2012), work psychology (e.g., Abaci & Arda, 2013), educational psychology (e.g., Vigna, Poehlmann-Tynan, & Koenig, 2017), and personality psychology (e.g., Neff, Rude, & Kirkpatrick, 2007). Research in these areas shows that SC is positively associated with adaptive forms of emotion regulation and coping (Allen & Leary, 2010; Diedrich, Grant, Hofmann, Hiller, & Berking, 2014), intrinsic motivation and mastery goals (Neff, Hsieh, & Dejitterat, 2005), as well as self-improvement motivation (Breines & Chen, 2012). Additionally, people who treat themselves compassionately report better health and well-being (Galante, Galante, Bekkers, & Gallacher, 2014; Zessin, Dickhauser, & Garbade, 2015). Thus, SC shows positive effects on processes that are also important for athletes. Furthermore, SC is negatively associated with self-criticism and maladaptive forms of perfectionism (Neff, 2003a), characteristics that have been found to have negative effects for athletes (e.g., Lundqvist

& Gustafsson, 2016; Madigan, Stoeber, & Passfield, 2015). A challenge to adopting SC might be how it is perceived by people. In everyday life, SC is sometimes seen as weakness, as something that reduces one's personal effort, and negatively affects performance and achievements (Gilbert, 2011). The importance of this prejudice against SC is highlighted by the existence of a scale measuring fear of SC (Gilbert, McEwan, Matos, & Ravis, 2011). Thus, on one hand, SC might be beneficial in terms of psychological parameters that are considered as important for athletic performance. On the other hand, some athletes may worry about the negative effects of SC.

The extensive focus on performance and outcome distinguishes the competitive athlete population from other populations that have already been investigated in SC research. Especially at elite levels, competitive sports are highly outcome oriented, and athletes should be willing to constantly improve themselves and compete with both opponents and teammates (Birrer & Morgan, 2010). General findings from SC research outside the sport context give us an idea what might be important for athletes. However, these findings might not be transferable one to one to the athlete population and closely examining SC in the competitive sport context is a worthwhile endeavor.

In this paper, we aim (1) to provide an overview of the published evidence of SC research in competitive sport that serves as a general introduction for academics and practitioners new to the field of SC in sport and (2) to answer the question, whether SC is beneficial for competitive athletes. We review the methodological approaches and the different roles and functions of SC in current research in the competitive sport setting. Based on these results we identify research gaps and discuss what is necessary to close them. Finally, we offer practical implications of the findings.

Search strategy and analysis

Our article takes the form of a scoping review (Armstrong, Hall, Doyle, & Waters, 2011). Scoping reviews aim to give a full overview of a certain issue (i.e., including all studies that have been conducted so far), identify research gaps, as well as summarize research findings. Based on the principles of scoping reviews our research question is broad, namely whether SC is helpful for competitive athletes.

The eligibility criteria for the publications included in this review were the following: (1) peer-reviewed publication, (2) publication in English, (3) original research and (4) research investigating SC in elite athletes, college/university athletes or competing athletes at other levels. The exclusion criteria comprised studies that (1) focused solely on investigating compassion for or from others, (2) examined sport populations outside a competitive setting (e.g., exercise sport or physical education) or (3) investigated sport-setting participants who were not athletes (e.g., coaches or sport psychologists). No restrictions were made concerning the methodology or the quality of the studies.

To identify the relevant studies, the following electronic databases were used in April 2019: PsycINFO, PsycARTICLES, PSYNDEX and SPORTDiscus. We did not set a date restriction when retrieving potential articles because of our interest in conducting a comprehensive review. The keywords competitive, athlete and sport were each used separately, in conjunction with the keyword self-compassion. We used truncations to broaden the search, leading to the final search phrase: (compet* OR athlet* OR sport*) AND (compassion*). A limit was applied to restrict the results to articles in English, as well as to peer-reviewed and original articles. Duplicates were automatically removed by the providers of the databases. Secondly, we extended the search by using reference lists of retrieved articles, book chapters and publication lists of authors who regularly published in this area. Through the database search, 704 publications were identified. One more publication was found when conducting the secondary search. Next, the articles' titles and abstracts were screened, resulting in 24 selected publications. Out of these, we excluded seven publications because the sample comprised not a competitive sport setting or compassion for others was investigat-

ed. Finally, 19 studies from 17 publications were included (see Figure 1). Out of the 19 included studies, fifteen were quantitative and four were qualitative. One of the publications included both a quantitative and a qualitative study (Ferguson, Kowalski, Mack, & Sabiston, 2014). Another publication included two quantitative studies (Mosewich, Sabiston, Kowalski, Gaudreau, & Crocker, 2019). One study (Reis et al., 2015) had two phases; the first phase was cross-sectional, and in the second phase, a subsample of the first phase participated in an experiment. In total, the studies included 1,951 athletes, divided into 1,177 women and 774 men. The samples included athletes from all competitive levels (i.e., recreational to elite). We analyzed each study individually and extracted the (1) study aims, (2) hypotheses, (3) study design, (4) sample characteristics, (5) operationalization of SC and (6) main results, including whether self-esteem was controlled for in the reporting of results (see Table 1). We discuss the findings of our review in the three subsections. First, we evaluate the methodology and theoretical approaches of the included studies and conclude with implications for SC research in competitive sports

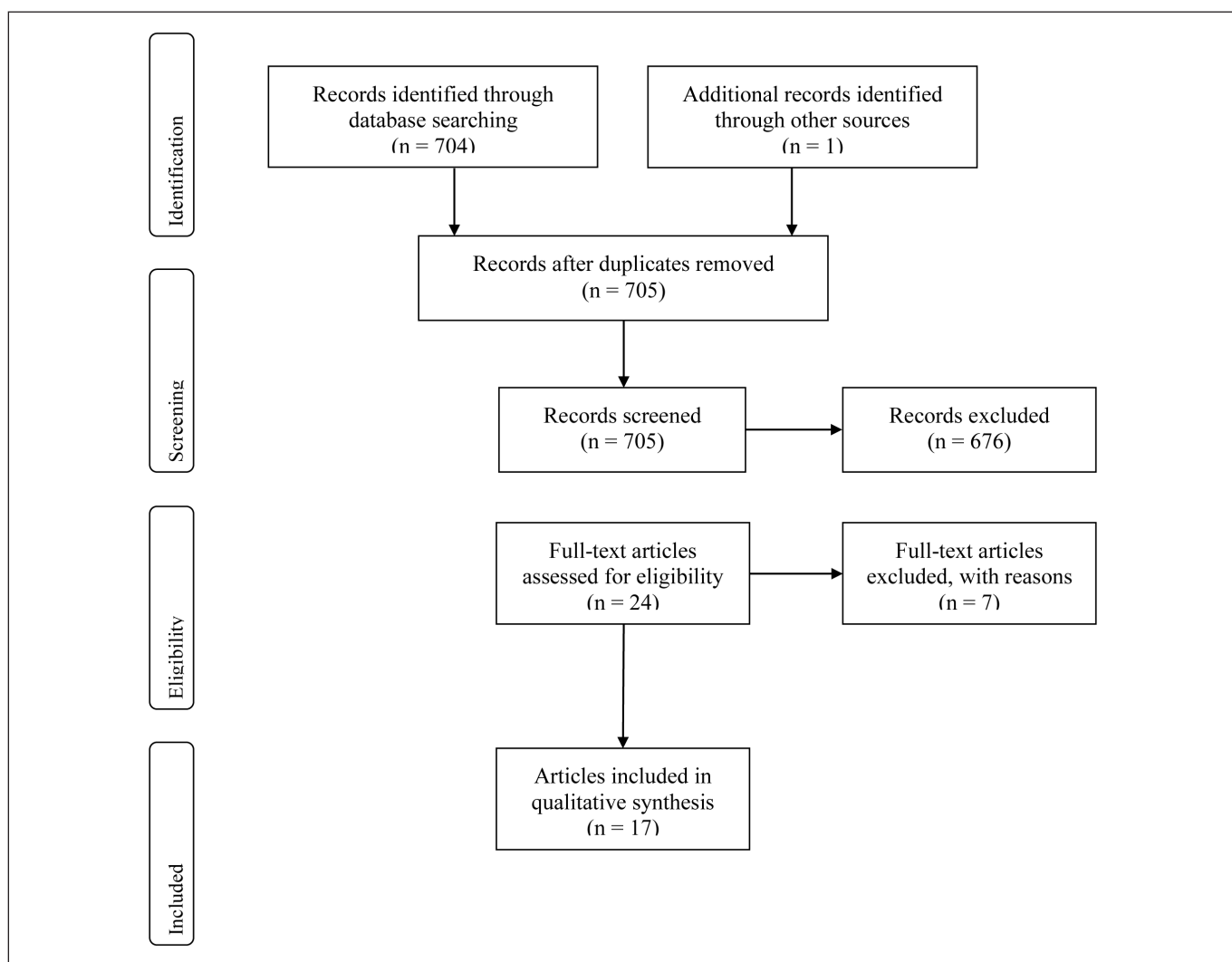


Figure 1: Flow chart of reviewed studies

Table 1: Overview of reviewed studies.

Reference	Study aim	Hypotheses	Sample
Barczak & Eklund (2018)	To examine SC as a potential moderator of the relationship between preceding performance appraisals and subsequent performance-related coping and motivational outcomes.	Performance appraisal (e.g., a very bad or a very good performance), SC and the interaction between performance appraisal and SC each predict post-performance episode coping (task-oriented coping and disengagement-oriented coping) and motivation (self-determined motivation and externally-regulated motivation).	N = 121 adolescent swimmers (72 m, 49 f); age: $M = 15.5$ ($SD = 2.23$); ranging from local to international competitive levels
Crozier, Mosewich, & Ferguson (2019)	To explore the relationship between athletes' SC and perceptions of their teammates' SC (descriptive norm).	Descriptive norm perceptions and SC correlate positively.	N = 108 team sport athletes (54% f) from 23 teams; age: $M = 23.1$ ($SD = 4.7$); most frequent sports: soccer (n=12), cricket (n=11), volleyball (n=10), basketball (n=10), ice hockey (n=8), broomball (n=8), wheelchair basketball (n=7), and netball (n=6); local to international competitive levels
Ferguson, Kowalski, Mack, & Sabiston (2014)	To explore the relationship between SC and well-being in athletes (Study 1). To explore athletes' perspectives on whether and when SC might be useful in sports (Study 2).	More SC is assumed to be associated with higher levels of well-being because self-compassionate people are more responsible, have initiative and are self-determined, as well as less passive.	Study 1: N = 83 f athletes; age: $M = 18.7$ ($SD = 2.14$); 21 different sports; ranging from local to international competitive levels; 59% report one to four training sessions per week Study 2: N = 11 f athletes; age: $M = 19.72$ ($SD = 2.20$); variety of sports; local to international competitive levels
Ferguson, Kowalski, Mack, & Sabiston (2015)	To explore the role of SC during hypothetical, emotionally difficult, sport scenarios in relation to psychological well-being in sports.	Higher levels of SC are associated with more well-being because of a higher frequency of constructive reactions to difficult sport situations.	N = 137 female athletes; age: $M = 19.0$ ($SD = 1.84$); variety of sports; local to international competitive levels; 56% report three or more training sessions per week
Fontana, Fry, & Cramer (2017)	To examine the relationship between motivational climate and SC.	Caring and task-involving climates are expected to be associated with greater levels of SC; a reversed association is expected for an ego-involved climate.	N = 164 athletes playing in a Wiffle Ball tournament (131 m, 10 f, 23 unknown); age: $M = 31.5$ (SD not reported); many participants regularly practice and play some form of the game at various competitive levels
Huysmans & Clement (2017)	To explore the role of SC in athletes' responses to stress and subsequent susceptibility to injury.	SC is predicted to serve as a coping resource and a cognitive reappraisal strategy and therefore moderate the relationship between stress and athletic injury.	N = 117 collegiate athletes from National Collegiate Athletic Association Division II (81 m, 36 f); age: 18–26 ($M = 19.50$, $SD = 1.57$); sports: men's football (n = 81), women's soccer (n = 23), women's volleyball (n = 13); 21% report at least one injury in the past 12 months

Design	Operationalization of SC	Main results
Cross-sectional	26-item SCS (Neff, 2003a)	<p>Contrary to the hypotheses, results showed that athletes lower in SC who appraised their performances as being poorer tended to self-report <i>greater</i> utilization of task-oriented coping than those higher in SC.</p> <p>In accordance with the hypotheses results showed that athletes higher in SC were using less disengagement-oriented coping than those low in SC. Athletes higher in SC reporting more self-determined motivation and less externally-regulated motivation than those low in SC.</p>
Cross-sectional	The authors used the same sport-modified version of the 26-item SCS (Neff, 2003a) as Killham et al. (2018)	The more it was perceived that teammates were engaging in SC, the more likely athletes reported being SC themselves. There were no main or interaction effects of gender.
Study 1: cross-sectional	Study 1: 26-item SCS (Neff, 2003a)	Study 1: The positive relation between SC and well-being is mediated by more initiative.
Study 2: qualitative	Study 2: Introduction of the SC concept by presenting a short SC video by Neff (2017)	Study 2: Participants identify four situations where SC might be advantageous: failing to meet personal goals or expectations, making mistakes during competitions, plateauing and suffering from injuries. At the same time, participants express concerns that too much SC would stop them from improving and that self-criticism would help them be motivated and pushed.
Cross-sectional	26-item SCS (Neff, 2003a)	A constructive reaction (in the form of more perseverance) to hypothetical, emotionally difficult sport scenarios mediates the positive relationship between SC and well-being.
Cross-sectional	<p>26-item SCS (Neff, 2003a)</p> <p>(Participants were asked to consider each item solely with regard to a previous played Wiffle Ball game.)</p>	SC is uncorrelated with the perceived motivational climate (caring, task or ego-involving climate).
Cross-sectional	12-item SCS-SF (Raes, Pommier, Neff, & Van Gucht, 2011)	Higher levels of SC are associated with lower levels of avoidance-focused coping.

Reference	Study aim	Hypotheses	Sample
Ingstrup, Mosewich, & Holt (2017)	To explore factors that contribute to the development of SC among highly self-compassionate female varsity athletes.		Out of a sample of $N = 144$ (purposeful sampling), $N = 10$ f varsity athletes with high levels of SC were selected; all participants competed in a strong university athletics program; age: 18–23; sports: tennis, rugby, basketball, soccer, hockey, swimming and volleyball
Jeon, Lee, & Kwon (2016)	To verify the structural relationships among SC, social support and subjective well-being.	Social support is positively associated with SC, which is, in turn, positively related to subjective well-being.	$N = 333$ elite athletes registered with the Korean Olympic Committee, $n = 144$ university students (123 m, 21 f); age: $M = 21.5$ ($SD = 1.2$); $n = 189$ high school students (131 m, 58 f); age: $M = 17.9$ ($SD = 0.8$)
Killham, Mosewich, Mack, Gunnell, & Ferguson (2018)	To explore if SC is related to sport performance and if SC accounts for unique variance beyond self-criticism in women athletes' perceived sport performance.	A positive relationship exists between SC and perceived sport performance. Self-criticism is negatively related with both SC and perceived sport performance. Precompetition SC predicts unique variance beyond self-criticism in women athletes' perceived sport performance.	$N = 82$ f athletes, local to international competitive levels; age: $M = 18.8$ ($SD = 2.0$); sports: basketball (15%), cross-country (4%), fencing (5%), figure skating (1%), hockey (42%), ringette (6%), volleyball (20%), wrestling (7%)
Lizmore, Dunn, & Dunn (2017)	To determine if different forms of perfectionism (concerns and strivings) would predict athletes' tendency to respond to poor personal performance in competition with SC, optimism, pessimism and rumination.	In response to personal failure in competition, (1) athletes' perfectionistic concerns would be associated with a smaller tendency to react with SC and (2) perfectionistic strivings would be associated with a greater tendency to react with SC.	$N = 239$ intercollegiate team-sport varsity athletes (140 m, 99 f); age: $M = 20.50$ ($SD = 1.99$); years of experience in intercollegiate sport: $M = 2.56$ ($SD = 1.48$); sports: basketball (14 m, 12 f), Canadian football (66 m), ice hockey (22 m, 18 f), rugby (32 f), soccer (21 m, 22 f), volleyball (17 m, 15 f)
Mosewich, Kowalski, Sabiston, Sedgwick, & Tracy (2011)	To examine the relations among SC, self-conscious emotions (e.g., shame) and self-evaluative thoughts and behaviors (e.g., fear of failure).	SC is hypothesized as negatively related to self-evaluative thoughts and behavioral inclinations and maladaptive self-conscious emotions (e.g., shame). SC is expected to explain significant unique variance beyond self-esteem in self-conscious emotions and self-evaluative thoughts and behavioral inclinations.	$N = 151$ female athletes; age: $M = 15.1$ ($SD = 1.2$); variety of high school and club-level sports (various competitive levels); 69.5% of participants active in sports more than five times during the week; 94.7% of participants involved in more than one sport and/or level of participation
Mosewich, Crocker, Kowalski, & DeLongis (2013)	To investigate the effects of an SC intervention on SC, state self-criticism, state rumination and concern about mistakes.	The SC intervention group is hypothesized to have higher levels of SC and lower levels of state self-criticism, state rumination and concern about mistakes as a reaction to recalled failures at post-test and follow-up compared with a control group.	$N = 51$ f varsity sport athletes; $n = 29$ SC group; age: $M = 20.3$ ($SD = 2.25$); $n = 22$ control group; age: $M = 20.3$ ($SD = 1.1$); sports: basketball (19.3%), cross-country (3.5%), field hockey (5.3%), golf (5.3%), ice hockey (7.0%), rowing (3.5%), rugby (10.5%), skiing (3.5%), soccer (19.3%), swimming (3.5%), track and field (20.1%) and volleyball (5.3%)
Mosewich, Sabiston, Kowalski, Gaudreau, & Crocker (2019)	To examine the role of SC in the stress process (including appraisal, coping and goal progress and affect).	SC was expected to be positively related to control appraisals, and positive affect; negative relations were expected between SC and threat appraisals, avoidance coping, and negative affect.	$N = 122$ f varsity athletes; age: $M = 19.73$ ($SD = 1.53$); sports: basketball (10.7%), cross-country (13.1%), field hockey (11.5%), golf (5.7%), ice hockey (3.3%), rugby (10.7%), soccer (16.4%), softball (12.3%), swimming (9.8%), and track and field (6.6%). Sixteen athletes had made a national team

Design	Operationalization of SC	Main results
Qualitative	26-item SCS (Neff, 2003a) to determine the level of SC and select athletes with high SC levels; during the interview, SC was explained in detail by the interviewer	Analysis shows three main themes that contribute to the development of SC: (a) role of parents (seeking and receiving help from parents, parents teaching self-kindness and parents putting experiences in perspective), (b) gaining self-awareness and (c) learning from others (e.g., coaches or sport psychologists).
Cross-sectional	26-item SCS (Neff, 2003a)	Social support is positively related to SC, which is, in turn, positively related to well-being. Thus, SC partially mediates the relationship between social support and subjective well-being.
Cross-sectional	The authors adapted the 26-item SCS (Neff, 2003a) to the sport context (sport-modified version of the SCS).	SC was positively related to perceived sport performance. Self-criticism was negatively correlated to SC. However, self-criticism was not correlated with perceived sport performance. SC contributed unique variance beyond self-criticism in perceived sport performance.
Cross-sectional	The authors adapted the SCS-SF (Raes, Pommier, Neff, & Van Gucht, 2011) to the sport context (sport modified version of the SCS-SF).	The more the athletes rate themselves as having perfectionistic concerns, the less they report that they would react with SC to personal failure in a competition. The more the athletes rate themselves as having perfectionistic strivings, the more they report that they would react with SC to personal failure in a competition.
Cross-sectional	26-item SCS (Neff, 2003a)	SC is negatively related to self-evaluative thoughts and behaviors (i.e., fear of failure) and maladaptive self-conscious emotions (e.g., shame), also after controlling for self-esteem.
Intervention study (seven days; two conditions: SC intervention, active control group)	26-item SCS (Neff, 2003a)	SC intervention leads to higher levels of SC and lower levels of state self-criticism, state rumination and concern about mistakes as a reaction to recalled failures compared with the control group.
Study 1: cross-sectional	26-item SCS (Neff, 2003a)	SC predicts higher control appraisals and lower threat appraisals; control appraisal explains why athletes with higher SC tend to use more problem-focused and emotion-focused coping and less avoidance-focused coping. Threat appraisal explains why athletes with lower SC tend to use more avoidance-focused coping.

Reference	Study aim	Hypotheses	Sample
			N = 131 f varsity athletes; age: $M = 20.13$ ($SD = 1.39$); sports: basketball (29.0%), cheerleading (3.1%), ice hockey (16.7%), swimming (8.4%), track and field (24.4%), and volleyball (18.3%); 10 athletes had made a national team
Reis, Kowalski, Ferguson, Sabiston, Sedgwick, & Crocker (2015)	<p>Phase 1: To determine if SC would be related to reactions, thoughts and feelings of female athletes faced with emotionally difficult, hypothetical and recalled sport-specific situations.</p> <p>Phase 2: To determine the effectiveness of a brief SC induction in changing athletes' reactions, thoughts and emotions, both alone and in comparison to self-esteem induction and writing control groups.</p>	<p>Phase 1: In difficult sport situations, SC is hypothesized to be positively related to more healthy reactions and thoughts but negatively related to more unhealthy thoughts and emotions.</p> <p>Phase 2: The primary hypothesis is that a SC induction would result in more healthy reactions (i.e., behavioral equanimity) and thoughts (i.e., equanimity and humor) and less unhealthy thoughts (i.e., catastrophizing and personalizing) and emotions (i.e., total negative affect) in response to the hypothetical scenario following the induction compared with their responses in phase 1. Additionally, athletes in the SC induction group are expected to show more significant changes than those in the self-esteem induction and writing control groups.</p>	<p>Phase 1: N = 101 f athletes; age: 14–25 ($M = 20.0$, $SD = 2.8$); various competitive levels; 59.4% participated in sports three or more times in the past week; different sports</p> <p>Phase 2: 59 f athletes from phase 1 volunteered to participate; age: $M = 20.5$ ($SD = 2.6$)</p>
Sutherland, Kowalski, Ferguson, Sabiston, Sedgwick, & Crocker (2014)	To present young female athletes' narratives about their experiences of emotional pain and SC.		Six f athletes, age: 15–24; involved in elite sports at the national or international level and experienced emotional pain associated with failure in sport; sports: athletics, basketball, cross-country running, figure skating, rugby and wrestling
Wasylikiw & Clairo (2016)	To gain a better understanding of the role of SC and masculine norms in men's seeking help for mental health.	SC would buffer (moderate) the negative relationship between masculinity and help seeking.	N = 166 m athletes, age: $M = 19.46$ ($SD = 1.44$), n = 94 members of an intercollegiate sports team (i.e., football, rugby or lacrosse), n = 72 not currently members of sports teams (comparison group)
Wilson, Bennett, Mosewich, Faulkner, & Crocker (2019)	To explore elite women athletes' perceptions and experiences of SC and mental toughness, and their compatibility in the pursuit of athletic achievement.		Seven f athletes who had competed internationally at major championships and who continued to be involved in international competition; age: 22–34; sports: half pipe snowboard, swimming, ice skating, downhill mountain bike, trampoline, rock climbing

Notes. m = males; f = females; SC = self-compassion; SCS = self-compassion scale; SCS-F = self-compassion scale short form

Design	Operationalization of SC	Main results
Study 2: cross-sectional	26-item SCS (Neff, 2003a)	SC predicts higher control appraisals but was unrelated to threat appraisals (contrary to study 1); control appraisal explains why competitive women athletes with higher SC use more task-oriented coping and less disengagement-oriented coping.
Phase 1: cross-sectional	26-item SCS (Neff, 2003a)	Phase 1: Athletes with higher levels of SC report more healthy ways (i.e., reactions, thoughts and feelings) and less unhealthy ways of responding to difficult sport-specific scenarios, both recalled and hypothetical, also after controlling for self-esteem.
Phase 2: experimental (three conditions: SC induction, self-esteem induction and writing task control)	26-item SCS (Neff, 2003a)	Phase 2: After controlling for Phase 1 SC levels, the findings neither support the effectiveness of any of the inductions on athletes' responses to the hypothetical scenario nor the hypothesis that the SC induction group would show greater changes compared with the self-esteem and writing control groups.
Qualitative	Introduction of the SC concept by presenting a short SC video by Neff (2017)	The narratives suggest that while SC can potentially be beneficial for athletes if developed and learned properly, they express concerns that being too self-compassionate may lead to mediocrity.
Cross-sectional	26-item SCS (Neff, 2003a)	SC is associated with more favorable help-seeking attitudes of men in teams (i.e., athletes), but it is not associated with help-seeking attitudes in the comparison group.
Qualitative	Introduction of the SC concept by presenting a short SC video by Neff (2017); a handout summarizing the video content, a verbal discussion to attempt to assist understanding the concept (including the note that SC can be inaccessible to some)	Participants experienced mental toughness as a coping resource, which included perseverance through adversity, remaining present, maintaining perspective, and adequate competition preparation. They perceived SC also as a key to coping with sport-related adversity. Finally, the women identified SC and mental toughness as compatible and contextual processes. SC was seen as critical to the development of mental toughness, and mindfulness was key to developing and maintaining both SC and mental toughness.

at a general level. Second, we present the different roles and functions of SC which were in the main-focus of research so far and give recommendations for future studies. Last, we discuss the practical implications of the reviewed studies.

Methodological characteristics and theoretical approaches in current research

Most of the fifteen quantitative studies employed a cross-sectional design. Additionally, we found one intervention study (Mosewich, Crocker, Kowalski, & DeLongis, 2013) and another including an experimental design (Reis et al., 2015). The four qualitative studies used interviews (Ferguson et al., 2014; Ingstrup, Mosewich, & Holt, 2016; Sutherland et al., 2014; Wilson, Bennett, Mosewich, Faulkner, & Crocker, 2019). We conclude that in the future more longitudinal as well as intervention and experimental studies with a randomized controlled design should be conducted to draw causal conclusions.

Nearly all samples covered a narrow age range (approx. 15–22 years old). This limitation affects the findings' generalization to other age groups because some research implies that SC increases with age (Neff & Vonk, 2009). The samples included athletes from all competitive levels. From the descriptions of the samples, it was sometimes unclear how many athletes belonged to which level. Moreover, key terms (such as "elite") have no commonly accepted definition. To evaluate the possibility that SC or its importance would differ across competitive levels, future research should clearly describe the competitive levels of included athletes by providing at least their training hours and number of competitions per year. Furthermore, specific descriptions of their competition standard (collegiate, regional, national, international) would be helpful. This would allow a more precise recommendation who benefits most from SC interventions. Of 19 studies, twelve comprised purely female samples. Future studies should investigate samples that are representative for the whole athlete population in order to investigate potential gender effects.

Concerning the operationalization of SC, all quantitative studies either used the Self-Compassion Scale (SCS, Neff, 2003a) or the short form of the SCS (SCS-SF, Raes, Pommier, Neff, & Van Gucht, 2011). One study changed the instruction of the SCS by advising participants to rate the items with regard to the competitive Wiffle ball game they played previous to the assessment (Fontana, Fry, & Cramer, 2017). Three studies used versions of the SCS or SCS-SF that were adapted for the sport context (Crozier, Mosewich, & Ferguson, 2019; Killham, Mosewich, Mack, Gunnell, & Ferguson, 2018; Lizmore, Dunn, & Dunn, 2017). So far, there are no other instruments to assess SC than SCS and SCS-SF and they have been reported to be reliable and valid (Neff, 2003a; Raes et al., 2011), thus, there is no reason not to use them. Adapted versions should undergo an evaluation of reliability and validity. In addition, it should be noted that there is an ongoing discussion about the conceptualization and structure of SC (Muris & Petrocchi, 2017). The four qualita-

tive studies used Neff's introduction video (2017) or the interviewer's extended definition to familiarize the participants with the SC concept.

Only two studies controlled their results for self-esteem (Mosewich, Kowalski, Sabiston, Sedgwick, & Tracy, 2011; Reis et al., 2015). These studies showed a unique effect of SC for certain outcomes (e.g., shame, Mosewich et al., 2011) when controlling for self-esteem. However, this does not guarantee that SC shows a unique effect for all outcomes. Therefore, at the current state of SC research in the competitive sport setting, it is advisable to control for self-esteem. If a clear pattern emerges for a particular outcome (e.g., shame), future studies may refrain from controlling for self-esteem when investigating that particular outcome. Determining whether SC or self-esteem are mainly responsible for an effect on a certain outcome is important because sport psychologists need to know why and when they should work on the athletes' SC or self-esteem.

Only two of the studies were framed by an existing theoretical model. Huysmans and Clement referred to the stress-injury model (Williams & Andersen, 1998) and Mosewich, Sabiston and colleagues (2019) referred to Lazarus' stress and coping framework (Lazarus & Folkman, 1984). This probably reflects the fact that research on SC in sports is still at an early stage. Nevertheless, future studies should consider relating their research questions to existing theoretical models. The benefits of having such models are the facilitation of relating findings to existing knowledge, a better understanding of involved mechanisms, and therefore increased explanatory and predictive value of the findings. In addition, current research is lacking a holistic and comprehensive theoretical framework as to how exactly SC is beneficial for athletes. Such a framework would need to be able to explain how SC affects emotional and motivational processes and explain how these processes are linked to athletic performance.

As a side note, two universities were involved in 13 of 19 studies. It is desirable that more research groups investigate SC in the competitive sport setting in order to promote diversity and to support the findings more broadly.

The different roles and functions of self-compassion in current research

The majority of the studies covered in this review investigated the potential benefits of SC on well-being and dealing with some form of adversity. A few studies argued that SC was a desirable outcome or state and investigated social and personality variables that might increase or decrease the presence of SC. The third study approach, used by all the qualitative studies, can be subsumed under athletes' beliefs about SC.

Benefits of self-compassion

One concept that correlates with SC is well-being (Zessin et al., 2015). The presence of well-being is regarded as an important

factor for optimal delivery of athletic performance (Etzel, 2009). More importantly, well-being is desirable for its own sake. The reviewed literature shows that the positive relation between SC and well-being exists in athletic populations as well (Ferguson et al., 2014; Ferguson, Kowalski, Mack, & Sabiston, 2015; Jeon, Lee, & Kwon, 2016). The studies suggest that SC is associated with adaptive personality characteristics and helpful behavioral inclinations in emotionally challenging situations that make well-being more likely (Ferguson et al., 2014; Ferguson et al., 2015). Self-compassionate athletes report less shame and negative self-evaluation (Mosewich et al., 2011) as well as less self-criticism (Killham et al., 2018), which might also benefit well-being although this was not examined by the authors. We conclude that SC will very likely benefit athletes' well-being; nonetheless, this has to be confirmed in an intervention study.

The second main topic, dealing with adversities, emerged from the reviewed studies. Several of them investigated the association between SC and the ability to deal with some form of adversity, such as failures or injuries. Since athletes regularly experience some form of failure (e.g., poor performance or mistakes in important situations during a game or a competition), how they react to and cope with these situations is crucial with regard to their short-term and long-term goals. The reviewed research shows that compared with less self-compassionate athletes, their more self-compassionate peers more frequently report that they would seek help when needed (Wasyliuk & Clairo, 2016). In addition, SC is associated with less ruminative and less self-critical reactions to the most significant negative event in sports over the past week (Reis et al., 2015). Also, a short period of SC training leads to more SC and a decrease in ruminative and self-critical reactions (Mosewich et al., 2013). These results imply that SC can be learned, in turn leading to healthier ways of reacting when confronted with failures and setbacks. In line with these findings, other research shows that SC is associated with less maladaptive coping strategies, namely avoidance focused coping (e.g., behavioral disengagement, denial, or distraction, Barczak & Eklund, 2018; Huysmans & Clement, 2017; Mosewich, Sabiston, et al., 2019). However, in two of these three latter publications, the findings were ambivalent. More specifically, in the second of two studies, Mosewich and colleagues (2019) found that disengagement and distraction were uncorrelated with SC. Furthermore, after a poor performance SC was associated with less task-oriented coping (Barczak & Eklund, 2018), which is considered to be an adaptive coping style.

In sum, there is some evidence that SC is helpful when dealing with both sport-specific and sport-unspecific forms of stress, failure and setbacks among athletes, which matches research results outside the sport context (Leary, Tate, Adams, Allen, & Hancock, 2007; Neff et al., 2005). Despite these promising findings, some crucial research gaps remain. For example, to date, only hypothetical and remembered reactions to hypothetical and recalled forms of stress, failure and setbacks have been investigated. Future research should examine actual emotional,

cognitive and behavioral reactions to real failure and stress situations, for example, with ambulatory assessment methods (Krieger et al., 2015; Trull & Ebner-Priemer, 2013).

Social and personality variables relevant to self-compassion

Studies with athlete populations show that having the impression of being socially supported (Jeon et al., 2016), perceiving teammates as a highly self-compassionate (Crozier et al., 2019) or striving for perfectionism in a healthy way (Lizmore et al., 2017) go along with reporting more SC. In contrast, being concerned about not being perfect enough may prevent SC (Lizmore et al., 2017). Other situational features, such as the motivational climate, are not correlated with SC (Fontana et al., 2017). Thus, studies investigating SC interventions should consider these aspects as potential moderators (e.g., whether athletes in low self-compassionate teams, with high levels of perfectionistic concerns, or low levels of social support would especially benefit from SC interventions). Based on research outside the sport context, other social and personality variables (e.g., being ego-goal oriented, Magnus, Kowalski, & McHugh, 2010) could be investigated as potential moderators in SC interventions for competitive athletes. Another line of research should investigate whether social and personality variables like perfectionistic concerns or perfectionistic strivings are antecedents or consequences of SC.

Athletes' beliefs about self-compassion

Studies investigating athletes' beliefs and attitudes about SC solely include small female samples, which are not representative for the athlete population as a whole. The reviewed studies were all qualitative using interviews. Results show that while athletes expect some benefits, such as dealing better with failures and emotions, they are at the same time skeptical of SC, mainly due to expected negative effects on self-improvement motivation (Ferguson et al., 2014; Sutherland et al., 2014). These results underline the potential ambivalence of athletes towards SC described in the introduction. However, in another interview study, SC was seen as critical to the development of mental toughness (Wilson et al., 2019). The current literature partly supports the expected benefits of SC for athletes, and no study reports performance-inhibiting effects of SC. However, it is important to mention that the current state of knowledge cannot dispel athletes' concerns because contrary to research outside the sport context (Breines & Chen, 2012) associations between SC and self-improvement motivation have not been investigated explicitly in athletes; neither has the association between SC and mental toughness. Future research should therefore fill this gap by examining how SC is related to athletes' self-improvement motivation and mental toughness, for example, while controlling for the effect of an athlete's fear of SC (Gilbert et al., 2011).

Another study investigating athletes' beliefs about SC finds that athletes feel that parents, coaches and gaining self-awareness

are important for the development of SC (Ingstrup et al., 2016). This preliminary finding's consequences involve a more applied level. If SC has to be increased, it could be integrated in parent and coach education programs, and self-awareness should be fostered among athletes, for example, through mindfulness interventions (Birrer, Röthlin, & Morgan, 2012).

Practical implications

This section briefly covers the significance of the application of SC in the competitive sport setting from the perspective of sport psychology practitioners. Based on the current literature, SC seems especially helpful when trying to increase athletes' well-being or help them deal better with stress, failures and setbacks. It is also important to take athletes' skepticism of SC seriously. Therefore, SC interventions for athletes should check whether participants have concerns about SC, clearly explain the SC concept (e.g., it has nothing to do with laziness), explain why SC has the potential to increase performance (e.g., by helping athletes deal with failure) and acknowledge that current research has not determined whether SC impairs self-improvement motivation. Concerning the length of a SC intervention with athletes, the current research indicates that SC needs at least several days to be internalized and that a short one time SC mood induction is ineffective (Mosewich et al., 2013; Reis et al., 2015). Adapting and validating existing long-term SC intervention programs (e.g., the 8-week mindful self-compassion program by Neff and Gremer (2013) for athletes might thus be promising. For additional thoughts about the effectiveness of SC interventions (e.g., concerning length, modality, and athlete characteristics) we refer to Mosewich, Ferguson, McHugh and Kowalski (2019).

Conclusion

In this review, we have aimed to give an overview of the current literature on SC in competitive sports and to answer the question, whether SC is beneficial for competitive athletes. We conclude that the number of multiday intervention programs and longitudinal studies should be increased. Such studies should consider assessing personality and situational aspects (including fear of SC) that may moderate the effect of SC on a certain outcome to identify the most beneficial constellation. The development of a holistic theoretical framework that explains how SC affects athletic performance could help categorizing these moderators. While the current literature suggests that SC might help athletes increase their well-being and ability to deal with adversities in sports, the impact of SC on self-improvement motivation remains unclear.

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Competing Interests

The authors have declared that no competing interests exist.

Data Availability Statement

All relevant data are within the paper.

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