Thriving Together: Conceptual and Methodological Considerations for Examining Thriving in Interdependent Sport

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Abstract

Despite conceptual advances and preliminary associations highlighting the benefits of thriving in sport, opportunities for continued research are numerous. Notably, sport-specific research involving thriving has predominantly taken an individual athlete perspective. Interestingly, evidence from the organisational domain suggests that thriving can manifest at a collective level through interdependent team member interactions. Given the potential for thriving to emerge as a higher-level phenomenon in interdependent sport, a critique of thriving at the group-level is advanced. More specifically, we provide a summary of existing individual athlete thriving literature and organisational thriving research at the group-level (Part 1), propose three approaches to conceptualising thriving in interdependent sport (i.e., common, team, and collective thriving) grounded in multilevel research (Part 2), pose guiding questions and key considerations for future exploration (Part 3), and conclude by emphasising the potential value of examining thriving as a higher-level construct for sport researchers and invested partners (Part 4).

Keywords: Collectives; construct development; emergence; multilevel; teams

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Although achieving success is a central motive in high performance sport, there is growing consensus amongst scholars and practitioners that it must not come at the expense of athlete welfare (Brown & Arnold, 2019; Brown et al., 2021). Accordingly, mounting emphasis is being placed on exploring the facilitators of athlete mental health and well-being ranging from individual (e.g., emotional regulation; Bird et al., 2021), to interpersonal (e.g., supportive social agents; Bissett et al., 2020), to group-level factors (e.g., a psychologically safe climate; Vella et al., 2022). Despite these advancements, scholars in the field of sport psychology have tended to examine either well-being or performance individually, rather than exploring both simultaneously (Passaportis et al., 2022). This dearth of attempts at exploring both performance and well-being concurrently is concerning given their combined centrality to elite athletes' sporting experiences (Brown et al., 2021). One salient avenue for advancing such a line of inquiry is through the concept of *thriving*.

Thriving is a multifaceted construct that encompasses the subjective joint experience of development (i.e., an innate drive for growth and self-fulfilment) and success (i.e., achieving context-relevant outcomes; Brown et al., 2017). Importantly, thriving reinforces the notion that well-being and performance are not mutually exclusive, but rather, are highly interconnected. As such, athletes are thriving when they experience a multifaceted state of full and holistic functioning characterised by perceptions of high levels of both well-being and performance (Brown et al., 2020). Notably, great strides have been made in relation to examining and understanding athlete thriving. For instance, this construct has been assessed across age ranges and competition levels (e.g., youth to adults, Davis et al., 2022; recreational to elite, Kinoshita et

al., 2022), cross-sectionally (Brown et al., 2017) as well as over the course of a month (Brown et al., 2021), and by using both quantitative (e.g., questionnaires; Rouquette et al., 2021) and qualitative methods (e.g., ethnography; Passaportis et al., 2022). As a result, researchers have identified various personal (e.g., positive mental state; Brown et al., 2018) and contextual enablers (e.g., high quality relationships; Davis et al., 2021) as well as mediating mechanisms of athlete thriving (e.g., basic psychological needs satisfaction, BPNS; Brown et al., 2017).

Despite these numerous advancements, research pertaining to thriving in sport remains in its infancy. For example, sport-specific research has solely examined thriving at the individual athlete level. Interestingly, when considered alongside the literature from organisational psychology and behavioural domains, there exists both anecdotal support and empirical evidence to suggest that collectives can also thrive (Spreitzer & Sutcliffe, 2007). Indeed, this notion of thriving at a group-level is often embedded within media headlines and marketing slogans describing ‘How to build thriving teams’ or within recommendations for ‘Creating thriving organisations’ (Brown, 2021). In addition, developments within the field of organisational science have suggested that while thriving originates within individuals’ subjective experiences, in contexts of high interdependence and stable membership, a dyad/team can collectively experience thriving through the process of emotional contagion (e.g., Spreitzer & Sutcliffe, 2007). Here, thriving groups or teams are described as not merely the sum of thriving individuals but rather, as a unique higher-level phenomenon that emerges through the interactions of team members (Keister, 2014).

Given that athletes are embedded in highly interdependent environments (i.e., when team members rely on one another to accomplish tasks, achieve personal and group-level outcomes, or contribute resources; Evans et al., 2012), it is likely that through frequent member interactions,

group-level experiences pertaining to shared cognitions, affect, and behaviours emerge (Wolf et al., 2018). Thus, interdependent sport environments may serve as an ideal context for the examination, development, and promotion of thriving at a group-level. Considering the potential for thriving collectives to emerge in interdependent sporting environments, the purpose of this article is to advance the concept of thriving as a group-level construct by introducing relevant considerations pertaining to its conceptualisation and operationalisation. More specifically, we provide a summary of existing individual athlete thriving and organisational thriving research at the group-level (Part 1), propose three approaches to conceptualising thriving as a group-level construct in interdependent sport (Part 2), pose guiding questions and key considerations for future research (Part 3), and conclude by emphasising the potential value of examining thriving as a higher-level construct (Part 4).

Part 1: Current Understandings of Thriving

Herein, we provide a high-level overview of research conducted on individual athlete thriving and describe preliminary literature on thriving collectives from the industrial/organisational domain (i.e., I/O psychology). This information serves as the starting point from which thriving at the group-level in sport can be discussed. For those interested in an in-depth review of individual thriving literature within and beyond the sport domain, please see Brown et al. (2021) and Brown et al. (2017). Pertaining to thriving as a collective construct, we direct the reader to Spreitzer and Sutcliffe's (2007) discussion on thriving in organisations as well as a multilevel review of thriving at work (Goh et al., 2022).

Research on Individual Athlete Thriving

The ways in which thriving has been conceptualised in sport differs broadly based on whether a developmental, organisational, or social perspective is adopted. One field of research

that sport has drawn heavily on is that of developmental psychology. Thriving first arose in the field of medicine pertaining to the assessment of new-borns' physical conditions (e.g., reflexes, breathing rate) and what was subsequently deemed a failure to thrive when developmental milestones were not met (e.g., Benson & Scales, 2009). However, during the positive psychology movement and subsequent proliferation of positive youth development (PYD) research, psychologists began to denote thriving as an indicator of adolescent development (e.g., Benson & Scales, 2009). Here, thriving is viewed as a life-span process of positive developmental changes and functioning during adolescence marked by the '5 Cs' of PYD—that is, competence, confidence, character, connection, and caring (Benson & Scales, 2009).

In contrast, I/O psychology researchers describe thriving as a psychological state—rather than a process—in which individuals feel momentum or progress characterised by the joint experience of learning (i.e., acquiring knowledge and skills) and vitality (i.e., aliveness; Spreitzer et al., 2005). Importantly, one cannot be learning (e.g., developing new skills) but be lacking in vitality (e.g., feeling burned out) and thus, must be experienced simultaneously to be considered thriving. Moreover, these dimensions are situated in both hedonic and eudaimonic motives, in that humans seek (a) pleasurable life experiences and (b) the fulfilment of one's potential (Ryan & Deci, 2000). Within the I/O domain, then, thriving is described as an adaptive function that has implications for an individual's health and work performance (Spreitzer & Sutcliffe, 2007).

In addition, social psychologists have discussed thriving based on attachment and social support theories to describe the interpersonal processes experienced during both life opportunity and adversity (Feeney & Collins, 2015). Here, thriving is discussed in relation to an individual's well-being across five dimensions (i.e., hedonic, eudaimonic, psychological, social, and physical well-being). During times of adversity (i.e., negative stress), social support persons serve as a

source of strength that can comfort and protect the individual, which results in immediate short-term (e.g., decrease in negative emotions) and long-term (i.e., thriving) outcomes. During experiences when adversity is absent, social support persons play a key role in serving as relational catalysts, in that they promote the engagement in opportunities that have the potential to enhance one's well-being through building relevant resources and finding meaning in life. Immediate outcomes include experiencing positive emotions and increased physical and mental health that over time, promote thriving. Altogether, social support systems play an integral role in promoting thriving through relationships during times of both adversity and opportunity.

Specific to the sport context, various conceptualisations of thriving have been adopted depending on the field within which researchers have grounded their work (e.g., developmental, Côté et al., 2020; organisational, Kinoshita et al., 2022; social, Rouquette et al., 2021). Notably, key differences exist across these conceptualisations such as whether thriving is defined as a state (organisational psychology) versus a process (developmental psychology). Similarly, whether performance is seen as a predictor (e.g., achieving situation-relevant outcomes; social psychology), characteristic (developmental psychology), or outcome of thriving (organisational psychology) differs across research fields. In this regard, the context-specific nature of these conceptualisations and subsequent lack of conceptual clarity may hinder one's ability to accurately understand and examine thriving in sport (Brown et al., 2017).

As a consequence of such limitations, Brown et al. (2017) proposed an all-encompassing definition of thriving, described as the joint experience of development (i.e., humans have an innate drive for growth and self-fulfilment) and success (i.e., achieving context-relevant outcomes). This definition has important implications for sport research as it overcomes limitations of existing conceptualisations. For instance, it has been suggested that Spreitzer and

colleagues' (2005) conceptualisation of thriving is too narrow for the sport context in that (a) both vitality and learning can be encompassed within the dimension of development, and (b) this conceptualisation neglects a core component of sport—performance. Given that performance is inseparable from well-being when shaping athletes' sporting experiences, Brown et al.'s conceptualisation seeks to overcome the context-specific nature of the aforementioned definition. Moreover, this conceptualisation overcomes temporal constraints (Benson & Scales, 2009) and is applicable across age ranges (Brown et al., 2017). Given the many strengths associated with this definition (i.e., joint experience of development and success), it has been applied frequently in the sports context (e.g., Brown et al., 2018; McHenry et al., 2022) and thus, will serve as the foundation for our discussions throughout this paper.

Personal and Contextual Enablers

Researchers have used qualitative and quantitative methods to identify both personal and contextual enablers that best promote thriving in individuals. Where personal enablers are an individual's attitudes, cognitions, and behaviours that help them thrive, contextual enablers are environmental characteristics that foster task engagement and subsequent thriving (Brown et al., 2017). Pertaining to personal enablers, both resilience (Sarkar & Fletcher, 2014) and mental toughness can promote thriving (Gucciardi et al., 2017). Specifically, individuals who are open to new challenges (e.g., proactive personality), value new learning experiences, and are adaptable when presented with challenging situations are more likely to thrive (Gucciardi et al., 2017). Moreover, one's hedonic (e.g., seeking pleasure, fun) and eudaimonic motives (e.g., seeking growth, self-improvement; Kinoshita et al., 2022), as well as self-regulatory skills are all described as important personal enablers of thriving (Brown et al., 2018).

In relation to contextual enablers, high quality attachment relationships (e.g., coach-athlete, parent-athlete; Davis et al., 2021), parental responsiveness (e.g., Rouquette et al., 2021), and perceived social support (e.g., coaches, teammates; Brown et al., 2018) are key factors in promoting thriving. Moreover, Brown and Arnold (2019) found relationships between teammates that were grounded in effective communication and collective goal setting as well as quality connections with the coaching staff/club (e.g., showing interest in, and trusting their athletes) to be contextual enablers of thriving. At an environmental level, sport contexts characterised as being psychologically safe (i.e., a fear-free environment that promotes risk-taking; Brown et al., 2021) and that maintain an appropriate balance of challenge (e.g., opportunity to grow) and support (e.g., promotes exploration) can enable athlete thriving (Brown et al., 2018). In addition, athletic environments founded on understanding, openness, and trust have also been recently found to facilitate athlete thriving (Passaportis et al., 2022).

Process Variables

Researchers have also begun to examine various psychosocial process variables that are expected to serve as the mechanisms through which the previously identified enablers elicit thriving. Grounded in theoretical research, two variables that have been proposed to determine thriving are BPNS (i.e., the degree to which individuals experience satisfaction in autonomy, competence, and relatedness) and challenge appraisal (i.e., individuals have the appropriate resources to cope with stressors; Brown et al., 2017; Ryan & Deci, 2017). Importantly, the satisfaction of BPNs has been found to influence social-contextual factors resulting in fully functioning individuals (Ryan & Deci, 2017). For instance, Davis et al. (2021) found athletes' attachment to their coaches to be significantly associated with thriving, mediated by BPNS. Similarly, Kinoshita et al. (2022) found hedonic and eudaimonic motives to be positively

associated with thriving through BPNS. Altogether, BPNS is described as a core facilitator of human growth and a prerequisite of thriving (Ryan & Deci, 2017). In relation to challenge appraisal, resilient qualities (a personal enabler) and perceived social support (a contextual enabler) have been found to influence thriving when an individual perceives a stressor as a challenge rather than a threat—thereby resulting in positive change and growth (Kipp & Weiss, 2013; Freeman & Rees, 2009). Specific to sport, Brown et al. (2017) found that athlete thriving was predicted by personal resilience and psychological skills use (personal enablers) as well as BPNS and challenge appraisal (process variables). In addition, Brown et al. (2021) found that athletes who perceive situations as a challenge rather than a threat pre-match, were more likely to experience in-match thriving. Notably, researchers have also begun to look beyond BPNS and challenge appraisal. For instance, Rouquette et al. (2021) recently found athletes' perceptions of their parents' responsiveness, mediated by athletes' self-esteem, to influence athlete thriving.

Means of Assessment

The ways in which athlete thriving has been measured across sport psychology research has differed depending on how thriving is conceptualised. Brown et al.'s (2017) conceptualisation (i.e., joint experience of development and success) has been most frequently adopted and is subsequently assessed via subjective perceptions of performance and well-being (i.e., subjective vitality and affect) with thriving individuals scoring highly across these indicators (Brown et al., 2017). Subjective performance has been quantitatively measured by examining participants' satisfaction with their sporting performance over the past month (e.g., Brown et al., 2017) or pertaining to a specific sporting encounter (e.g., competition, match; Brown et al., 2021). In relation to well-being, while a variety of well-being measures exist across sport research (e.g., Giles et al., 2020), in the context of thriving, well-being is most frequently

divided into hedonic and eudaimonic well-being (Brown et al., 2017). Notably, measuring these dimensions has been described as a more comprehensive approach to understanding true well-being (Deci & Ryan, 2000). To assess hedonic well-being, athletes have completed derivatives of the Positive and Negative Affect Schedule (i.e., PANAS, Watson et al., 1988). For instance, Rouquette et al. (2021) measured hedonic well-being via the child version (PANAS-C; Ebesutani et al., 2012) while Kinoshita et al. (2022) employed the international short-form (I-PANAS-SF; Thompson, 2007). In addition, eudaimonic well-being has been assessed using the Subjective Vitality Scale (SVS; Ryan & Frederick, 1997) such as by Brown et al. (2017) and Davis et al. (2021). Notably, variations in measurement exist across sport research depending on the conceptual underpinnings of said construct. For instance, Rouquette et al. (2021) grounded their thriving work in social psychology (i.e., thriving as an optimal state of well-being; Feeney & Collins, 2015) and thus, measured thriving using the Cantril Ladder of self-related satisfaction (Cantril, 1965) and a health quality single-item scale (Benjamins et al., 2004) in addition to PANAS-C and SVS.

Interestingly, sport researchers have also explored various physical indicators of thriving. Grounded in research that focuses on hormonal responses to stressful situations, thriving is predicted to occur when higher levels of anabolic hormones (i.e., restorative hormones such as dehydroepiandrosterone; DHEA) are released in comparison to catabolic hormones (i.e., protective hormones such as cortisol; Epel et al., 2008). Notably, cortisol increases in response to stress (Sapolsky et al., 2000) while DHEA has been found to positively effect well-being (Maninger et al., 2009). Thus, lower cortisol and higher DHEA levels may demonstrate an individual's ability to cope effectively with a stressor and serve as an indicator of thriving (Epel et al., 2008). Grounded in this work, Brown et al. (2021) predicted that a higher ratio of DHEA

to cortisol would positively relate to in-match thriving, and that total cortisol exposure throughout the morning of a match and immediately pre-match would negatively relate to thriving. While findings were not statistically significant, small to moderate negative correlations found between cortisol and total cortisol exposure and thriving support the idea that lower cortisol responses to stress are associated with thriving (Epel et al., 2008). Similarly, the small positive correlation between DHEA and thriving further supports the positive DHEA-well-being relationship (Maninger et al., 2009). This was the first study to assess thriving by physiological markers, and future research may benefit from exploring whether these hormones are mechanisms through which thriving is elicited or markers of thriving in and of itself.

Research on Thriving at a Group-Level

Research efforts in sport have emphasised individual athlete thriving, whereas researchers from I/O psychology have begun to explore the idea of thriving as a group-level construct (Spreitzer & Sutcliffe, 2007; Spreitzer et al., 2005). Rooted in the conceptualisation of thriving as a joint experience of learning and vitality, Spreitzer and Sutcliffe (2007) suggest that while thriving originates within the cognitions, affect, and behaviours of individuals, in highly interdependent contexts with stable membership, positive affect can spread amongst group members via the process of emotional contagion (Barsade, 2002). This is important because the contagion is proposed to then result in thriving across dyads, groups, and/or organisations—coined ‘collective thriving’ (Spreitzer & Sutcliffe, 2007; Thompson & Ravlin, 2017). The concept of collective thriving has also been grounded in broaden-and-build theory, which suggests that as individuals experience positive emotions, the potential behaviours or actions one can engage in (i.e., agentic work behaviours) ‘broadens’, which in turn, further promotes positive affect (Fredrickson, 1998; Keister, 2014). At a collective level, the broader range of behaviours

that exist for a team to engage in (e.g., innovative thinking, effective decision making, perspective-taking), the more likely they will successfully meet team goals and accomplish relevant tasks—leading to collective thriving (Keister, 2014).

Collective thriving is broadly described as a shared emotional and psychological state that is attributable to the group and influenced by the context in which the group is embedded (Keister, 2014). To be more specific, a dyad, group, or organisation is considered to be thriving when it is characterised by high levels of learning and vitality (Spreitzer & Sutcliffe, 2007). As previously alluded to, a thriving collective is not described as simply a sum of its individual thriving members but rather, is a unique and conceptually distinct higher-level phenomenon (Spreitzer & Sutcliffe, 2007). Accordingly, although a team can be thriving due to the attainment of collective goals (e.g., learning) and demonstration of determination (vitality), this could occur at the cost of individual member welfare (e.g., members feel burned out). The opposite can also be true—an individual team member is thriving (e.g., experiencing learning and vitality), but their success does not contribute to the team's collective objectives or development. Thus, when examining thriving at a group-level, it is important to consider the influence of individuals' subjective experiences on thriving collectives and vice-versa (Spreitzer & Sutcliffe, 2007).

Personal and Contextual Enablers

Although the emergence of collective thriving research is in its infancy, the construct has been associated with a variety of positive outcomes in the organisational context. For instance, collective thriving has been positively associated with team resilience, performance, team/organisational growth, and the achievement of collective goals (Spreitzer & Sutcliffe, 2007). As such, researchers have begun to explore various enablers of collective thriving. For instance, Keister (2014) found attunement—which is defined as "a team's ability to self-regulate

development and well-being through emotional and sensory cues" (p. 306)—to predict collective thriving. In other words, when team members are aware of, and attentive to, the needs and behaviours of themselves as well as their team as a whole, collective thriving is promoted.

Given that leaders can positively influence the affect and performance of their followers, various types of leadership have also been explored in the organisational domain as key enablers of collective thriving. For instance, Walumbwa et al. (2018) noted that servant leaders in the business context who are empathetic, nurturing, and who focus on followers' needs could enhance task engagement and vitality of their team members. Servant leaders also promoted the engagement in creative and innovative work behaviours which could stimulate enhanced vitality, learning, and performance. Indeed, when servant leaders promoted a psychologically safe environment for their followers at work (e.g., founded in genuine care, trust, and respect), the followers were more likely to engage in exploration, develop new skills, and experience positive emotions—promoting a shared sense of learning and vitality amongst the collective (Xu & Wang, 2020). Similarly, authentic leaders who demonstrate high ethical morals and work collaboratively with their followers to achieve relevant objectives have also been found to promote collective thriving (Wu & Chen, 2019).

At an environmental level, and pertaining to team culture, Jenkins (2010) conducted a case study in the retail sector and found that when a team was characterised by high quality relationships (e.g., displaying genuine concern or care for team members) and was embedded in an environment that was supportive yet challenging (e.g., members are free to make mistakes, there is trust in their leaders), members were more likely to view challenges as opportunities for learning and growth that contributed towards a thriving team. Additional environmental characteristics that promoted a culture conducive to collective thriving encompassed inclusivity

(e.g., values diversity) and transparency (e.g., effective communication). Last, by adopting a holistic, whole-person approach (e.g., valuing team members beyond their context-specific roles, prioritising the well-being of team members), collective thriving in the retail sector was more readily cultivated. Altogether, when a team's culture promotes the satisfaction of BPNs and that as a team, members 'buy-in' to the aforementioned behavioural expectations, collective thriving can be achieved (Jenkins, 2010). Overall, unique intrapersonal, interpersonal, and environmental factors including, but not limited to, specific types of leadership styles, attunement, and team culture may play important roles when seeking to promote thriving at a group-level in interdependent sport.

Process Variables

Researchers in the field of organisational psychology have also begun to examine the influence of various mediating mechanisms on collective thriving. For instance, collective mindfulness (i.e., collective awareness and resilience in the face of unexpected events) has been found to partially mediate the authentic leadership-collective thriving relationship at work (Wu & Chen, 2019). Along these lines, the quality of leader-member exchanges has also been found to mediate the leadership-collective thriving relationship (Xu & Wang, 2020). Finally, and as previously alluded to, emotional contagion may serve as an important mediating mechanism when examining the processes through which thriving at a group-level emerges (Spreitzer & Sutcliffe, 2007). More specifically, in interdependent contexts, the positive emotions an individual experiences when thriving are expected to be 'caught' by team members via emotional contagion, resulting in thriving collectives over time (Keister, 2014).

Altogether, despite this research offering insight into potential mechanisms of thriving collectives in sport, it is important to remember that the thriving conceptualisation used in I/O

research has been argued to be incompatible/inappropriate for thriving in sport (i.e., neglects performance aspect; Brown et al., 2017). Thus, these findings should be interpreted cautiously and/or re-imagined with a sport-appropriate framework/conceptualisation (i.e., joint experience of development and success; Brown et al., 2017) when conducting future empirical work.

Means of Assessment

To assess thriving at a collective level in the organisational context, researchers have modified the 10-item individual thriving at work scale developed and validated by Porath et al. (2012). This scale is grounded in the conceptualisation of thriving as the joint experience of vitality (e.g., 'I feel alive and vital'; 'I have energy and spirit') and learning (e.g., 'I find myself learning often'; 'I continue to learn more and more as time goes by'). For instance, Wu and Chen (2019) adopted a referent-shift consensus model (cf. Chan, 1998), in that the referent from Porath et al.'s (2012) measure was changed from 'I' to 'Team members' (e.g., 'Team members have energy and spirit'; 'Team members continue to learn more as time goes by'). A direct-consensus model (Chan, 1998) has also been used, where individual responses pertaining to one's own thriving (using Porath et al.'s 10-item scale) have been aggregated to represent collective thriving (e.g., Xu & Wang, 2020). Alternatively, a dispersion model (Chan, 1998) has been employed where variance in thriving scores at both the team and individual levels are examined (Walumbwa et al., 2018). Notwithstanding the issues associated with applying the thriving at work conceptualisation (Spreitzer & Sutcliffe, 2007) and associated measures to sport (i.e., absence of performance; Brown et al., 2017), the aforementioned compositional models used to measure collective thriving via individual-level questionnaires may serve as a useful avenue for examining group-level thriving in sport. These compositional approaches (i.e., direct-consensus, referent-shift, dispersion) are elaborated on in Part 2.

Part 2: Thriving as a Group-level Construct in Interdependent Sport

To develop propositions pertaining to the conceptualisation and operationalisation of thriving as a group-level construct in interdependent sport, we draw on multilevel theory (e.g., Kozlowski & Klein, 2000) as well as group/team dynamics literature (e.g., Eys et al., 2020; Forsyth, 2014) in the subsequent sections. Importantly, the propositions discussed are not definitive but rather, are meant to serve as a heuristic or sounding board for further reflection and empirical exploration of thriving in interdependent sport contexts.

A Multilevel Framework of Thriving in Interdependent Sport

Multilevel frameworks seek to bridge micro (i.e., lower level) and macro (i.e., higher-level) perspectives (Kozlowski & Klein, 2000). Thus, it is important to consider the interconnectedness of individual athlete thriving and thriving at the group/team-level. To do so, Kozlowski and Klein (2000) suggest top-down or bottom-up approaches. A top-down approach places emphasis on how higher-level contextual features influence lower levels of a system (Kozlowski & Klein, 2000). As one example in the context of sport, this could include how team norms exert influence on the behavioural tendencies and interactions of teammates (e.g., Graupensperger et al., 2020). In comparison, a bottom-up approach places emphasis on emergent processes that originate from within individuals (e.g., cognitions, affect, behaviours) and through social interactions between team members, emerge as a higher-level phenomenon (Kozlowski & Klein, 2000). For instance, one could consider how member behaviours and interactions over time result in collective efficacy (e.g., Myers & Feltz, 2007).

As previously discussed, research pertaining to thriving as a higher-level phenomenon is often rooted in broaden-and-build theory (Fredrickson, 1998) and based on the notion that emotions are contagious (Barsade, 2002). Notably, contexts that have high levels of task and

social interdependence as well as stable membership—which is certainly the case for sport teams—are considered to be emotionally contagious contexts (Barsade, 2002; Clarkson et al., 2020). In this regard, if individual athletes are thriving, teammates may be more likely to 'catch' those positive emotions, enhance their own thriving, and contribute to thriving as a collective over time. Together, given that (a) group-level thriving is proposed to emerge through emotional contagion and (b) athletes are embedded within complex interdependent environments that can result in shared experiences, a bottom-up approach is deemed most appropriate for exploring collective thriving in sport. We propose that whereas thriving originates at a lower level (i.e., an individual's subjective thriving experience), it can manifest as a higher-level phenomenon through the interactions and exchanges of teammates.

When adopting a bottom-up approach, Kozlowski and Klein (2000) emphasise the importance of considering collective construct properties, which will influence how said construct emerges at a higher-order level. They posit that three types of collective constructs exist: global, shared, and configural (Kozlowski & Klein, 2000). Global constructs originate and manifest at the collective level and are often easily observable, objective, and descriptive. For instance, team size and location are considered global constructs. Shared and configural constructs originate at lower-levels and manifest as higher-level constructs (Kozlowski & Klein, 2000). As the name implies, shared constructs originate through individual member experiences, thoughts, and behaviours that *converge* through group member interaction. This convergence signifies consistency across team member perceptions whereby within-unit consensus is achieved, allowing for individual-level responses to be aggregated to represent the higher-level phenomenon (Kozlowski & Klein, 2000). For instance, collective efficacy is a shared construct because it emerges through team members' shared confidence in their team's ability to

collectively complete relevant tasks (Myers & Feltz, 2007). Configural constructs are functionally equivalent in that they also originate at a lower-level and manifest at a higher-level. However, rather than observing this 'convergence' of perceptions, they capture the variability, pattern, or array of team member characteristics that combine to form a meaningful pattern. Thus, configural constructs are not functionally equivalent across levels. For instance, team performance is a configural construct because it can reflect the strongest or weakest member's performance, or a combination of all team members' performances (Kozlowski & Klein, 2000).

Whether thriving at a group-level is considered a shared or configural construct will subsequently influence how this construct is proposed to emerge. More specifically, emergence can be categorised into two types, composition or compilation emergence (Kozlowski & Klein, 2000). Shared constructs experience composition emergence, which is based on the assumption of isomorphism, wherein consistent lower-level characteristics yield a higher-level construct. Through member interactions and team processes, consistent and homogenous perceptions across team members merge. In this way, individual members' shared perceptions that their team is thriving can be averaged to represent the higher-level phenomenon. In comparison, for configural constructs, compilation emergence occurs when different but related lower-level characteristics combine resulting in a complex, higher-level phenomenon. In this case, individual athletes contribute uniquely to the emergence of thriving at the group-level in that some may be more influential than others.

Based on our current understanding of thriving collectives from organisational science literature, we explore thriving at the group-level as both a shared and configural construct in the subsequent sections. Given that both composition and compilation processes are likely at play when examining collective constructs (Bonito & Keyton, 2019), we do not propose one single

way of conceptualising and operationalising thriving as a higher-level construct but rather, seek to propose various approaches to examining said construct with potential, congruent modes of measurement.

Approaches to Conceptualising Thriving as a Group-level Construct

In the previous section we explored multilevel research (e.g., top-down versus bottom-up approach) and subsequently, the properties and emergent processes of collective constructs. Based on this literature, we seek to extend the theoretical framework of thriving in sport by proposing three alternate forms of thriving at the group-level (see Table 1). In the subsequent sections, we adopt a multilevel-multireferent approach by introducing three compositional models that subsequently serve as the foundation for our propositions (Chan, 1998). Of note, to accurately capture the performance component of thriving in sport, the three forms are rooted in Brown et al.'s (2017) conceptualisation (i.e., joint experience of development and success). Thus, the proposed example items differ from Spreitzer and Sutcliffe's (2007) conceptualisation (i.e., joint experience of learning and vitality) in that performance is characterized as a core component of thriving, rather than as an outcome.

Insert Table 1 Near Here

Compositional models assist researchers in understanding how individual-level data can be combined to form a higher-level construct (Kozlowski & Klein, 2000). As outlined in Chan's (1998) typology of compositional models, five methods of aggregation can be employed to guide multilevel construct development: additive, direct-consensus, referent-shift consensus, dispersion, and process composition. Given the inherent limitations of additive (i.e., higher-level construct is the summation of lower-level scores regardless of variance) and process models

(e.g., no empirical algorithm exists to measure these constructs), we only discuss direct-consensus, referent-shift consensus, and dispersion models, respectively.

For a direct-consensus model, within-group consensus of lower-level data is used to specify the meaning of a higher-level construct (i.e., lower-level data are functionally isomorphic to the higher-level form; Chan, 1998). To examine whether consensus has been achieved, a within-group agreement index (e.g., r_{wg}; James et al., 1984) can be employed by identifying a specific cut-off value from the lower-level data. Typically, aggregation is appropriate if the mean exceeds or is equal to 0.70 (Klein & Kozlowski, 2000). Thus, if within-group agreement is achieved, this justifies the aggregation of lower-level data to reflect a higher-level construct. In addition, intra-class correlation (ICC) coefficients can be used to determine the ratio of between-group variance to total variance, with a large ICC providing evidence for composition processes (Bonito & Keyton, 2019). For instance, researchers have measured psychological climate (i.e., individual perception of working environment) and when within-group agreement is achieved, these individual scores have been aggregated (i.e., clustered) to represent the higher-level construct, organisational climate (Chan, 1998). Notably, a key limitation of this model is that aggregating individual-level data can result in the oversimplification of group-level constructs (Chan, 1998).

Similar to that of the direct-consensus model, the referent-shift consensus model also uses within-group agreement to index consensus and justify the aggregation of lower-level data to a higher-level construct (Chan, 1998). However, this model addresses the aforementioned limitation of the direct-consensus model by shifting the referent prior to consensus assessment (i.e., the new referent is being combined to represent the higher-level construct)—resulting in a conceptually distinct higher-level construct derived from lower-level data. For instance, and in

line with the previous example, instead of measuring and aggregating individual perceptions of psychological climate, the researchers are now interested in examining how individuals believe others within their organisation perceive their psychological work climate (i.e., referent changes from self to others)—resulting in psychological collective climate (Chan, 1998).

While the aforementioned models use within-group agreement to justify the aggregation of scores from lower-level data, researchers have highlighted various limitations. For instance, these models overlook the variation in team member responses, in that within-group variance is treated as error (Chan, 1998). Notably, this can result in the over-simplification of team-level constructs (Dawkins et al., 2015). Thus, an alternative model that combats these limitations is the dispersion model. Here, within-group variance (i.e., within-group dispersion scores) serve as the operationalisation of the focal construct. For instance, rather than treating variance as error when exploring psychological climate, the dispersion of individual climate scores may be indexed to represent the construct, climate strength. It is important to note however, that whereas within-group agreement is no longer a prerequisite, dispersion models require the absence of multimodality (i.e., substantively meaningful subgroups do not exist; Chan, 1998).

Altogether, based on the aforementioned compositional models and their respective strengths and limitations, we propose three forms of thriving at the group-level. Herein, each form is explained with their corresponding referent and model(s) adopted, modes of data collection, and example items that can be used to measure each form.

Proposition 1: Common thriving occurs when team members perceive themselves to be individually thriving at the same time.

Common thriving is proposed to occur when individual team members are thriving at the same time (See Table 1, Row 1). Depending on whether thriving is conceptualised as a shared or

493 configural construct, a direct-consensus or dispersion model may be adopted. If conceptualised
494 as a shared construct, a direct-consensus model would be adopted in that the meaning of the
495 higher-level construct (in this case, common thriving) is indexed by the level of consensus
496 achieved among lower-level units (i.e., perceptions of individual thriving). When within-group
497 agreement is achieved (e.g., the majority of team members think they are thriving at the same
498 time), the aggregation of data to represent common thriving is justified. In terms of data
499 collection, participants provide independent ratings of their own subjective thriving score (i.e.,
500 referent is the self) answering questions such as, 'I am satisfied with my performance today' and
501 'I felt alive and vital'. These individual scores are then aggregated (combined) to represent
502 common thriving. Of note, this model has been adopted when measuring collective thriving at
503 work. Xu and Wang (2020) asked employees to rate their individual level of thriving using
504 Porath et al.'s validated 10-item thriving at work scale. Upon achieving within-group consensus,
505 they aggregated the data to represent collective thriving (Xu & Wang, 2020).
506 Alternatively, if conceptualised as a configural construct, then within-group variance is of
507 interest and subsequently, a dispersion model is adopted. More specifically, the dispersion model
508 examines the extent to which individual perceptions of one's own thriving are dispersed. The
509 data collection and example items remain the same as the direct-consensus model; however, now
510 a multilevel model is adopted to examine variance at both the team (i.e., shared perceptions of
511 individual thriving) and individual levels (i.e., individual perceives themselves to be thriving).
512 Notably, this model has been adopted when examining collective thriving in the organisational
513 context. Walumbwa et al. (2018) used the thriving at work scale (Porath et al., 2012) to examine
514 collective thriving. Based on the ICC1 value, it was determined that there was sufficient
515 individual and unit-level variance and thus, adopted a multilevel model.

Proposition 2: Team thriving occurs when team members perceive their team as a whole to be thriving.

Team thriving reflects individual team members' perceptions that their team is thriving as a whole (See Table1, Row 2). If conceptualised as a shared construct, a referent-shift consensus model is adopted (Chan, 1998)—in that individuals are now responding in relation to perceptions of their team's thriving rather than their own. If within-group agreement is achieved (e.g., 0.70), the lower-level data can be aggregated to represent team thriving. Unlike common thriving where the lower-level data is conceptually and functionally the same across levels of analysis (i.e., isomorphic), the referent-shift results in a conceptually distinct higher-level construct. With respect to data collection, in this approach participants provide an independent rating of their own subjective perception of their team's thriving, and could answer questions such as, 'I am satisfied with my team's performance' and 'I thought the team was alive and vital'. Notably, this model has been used in the organisational context when examining collective thriving whereby Porath et al.'s (2012) thriving at work scale referent was changed from 'I' to 'Team members' (Wu & Chen, 2019). While aggregation of the lower-level data was justified in this study, it is important to consider limitations of said model (i.e., neglects the multilevel nature of the data as individual members are nested within organisational units). Thus, conceptualising team thriving as a configural construct and as a result, examining team thriving via a dispersion model may be more appropriate. Here, the variation of individual perceptions of team thriving is of interest. In this instance, the same data collection process and example items corresponding with the referent-shift model are employed; however, multilevel modelling is now used to analyze the relationship among lower-level variables (i.e., individual perceives the team to be thriving) within higher-level units (e.g., team; i.e., shared perception of team thriving).

Proposition 3: Collective thriving represents the integration of team members' perceptions that their team is thriving as a whole.

The final proposed approach to exploring thriving for interdependent teams is collective thriving (See Table 1, Row 3). Here, collective thriving represents the integrated perceptions of members that perceive themselves as a team, to be thriving. If deemed a shared construct, a referent-shift consensus model is adopted (Chan, 1998) in that participants provide a rating of their team's subjective thriving experience from their integrated perception as team members (e.g., 'We, as a team, are satisfied with our performance today'; 'We, as a team, felt alive and vital'). Participant scores are then aggregated if within-group agreement is achieved to represent collective thriving. In contrast, if conceptualised as a configural construct, the variance of integrated perceptions of team thriving is examined via a dispersion model (i.e., the degree to which team members agree that their team is collectively thriving). Altogether, high variability in team member scores reflects low strength in collective thriving perceptions, whereas low variability in team member scores reflects high strength in collective thriving perceptions.

Whereas further empirical exploration of the three propositions is warranted, it is important to note that when examining the various types of thriving with other correlates, it is not expected that the same compositional model needs to be adopted. Rather, the operationalisation of the variables in question are dependent on each construct's guiding theoretical underpinnings (Chan, 1998; Klein & Kozlowski, 2000). Similar to that of thriving at a group-level, one must determine if the collective construct is global, shared, or configural, which in turn, will influence which model is most appropriate (Chan, 1998). For instance, if collective thriving is deemed a configural construct and is being examined in relation to collective efficacy (i.e., a shared construct), two different compositional models could be adopted (i.e., dispersion

versus referent-shift). Alternatively, if team thriving—conceptualised as a shared construct—is being examined in relation to psychological capability (also a shared construct), a strong rationale for adopting two referent-shift models could be provided.

Part 3: Key Considerations and Fundamental Questions

While the aforementioned approaches to conceptualising thriving as a group-level construct provide researchers with explicit avenues for further empirical exploration, various considerations remain. We encourage readers to critically reflect on the following questions as we seek to promote clarity and continuity for the inquiry of thriving collectives.

Does Thriving at a Group-Level Have Unique Enablers and Process Variables?

Although future research would benefit from exploring the influence of already identified individual-level enablers (e.g., resilience, self-efficacy) and process variables (e.g., BPNS, challenge appraisal) on thriving collectives, it is important to consider whether this construct has unique team-level enablers (e.g., team resilience, collective efficacy) and process variables (e.g., collective mindfulness; Wu & Chen, 2019). For instance, various group and environmental factors that have been found to shape interdependent sporting contexts and subsequently, influence team functioning and member satisfaction may be considered. This can include variables such as entitativity (i.e., the degree to which members view others as part of a collective; Campbell, 1958), motivational climate, and team norms (Forsyth, 2014). Notably, all of these factors have the potential to shape teammate interactions and processes (e.g., Eys et al., 2019; Forsyth, 2014; Martin et al., 2017) which subsequently, may promote the emergence of thriving at a group-level. Altogether, examining both previously identified and potentially unique enabler and process variables at the individual and team levels will provide researchers with a more all-encompassing perspective of individual and group-level thriving.

Can a Team Experience Affect and Vitality or is it the Individuals Within a Team?

Recognising and examining the role of interpersonal and collective emotional experiences has surged in the field of sport psychology (Rumbold et al., 2022; Tamminen & Bennett, 2017; Wolf et al., 2018). Group-based emotions are described as a function of one's identity to a particular group such as feeling proud when collective goals are achieved (Rumbold et al., 2022; Tamminen & Bennett, 2017). Relatedly, collective emotions are a type of group-based emotion that team members experience together (e.g., feeling disappointed after losing a competition; Tamminen & Bennett, 2017). Emotions can also be viewed as a social phenomenon when exploring the process of emotional contagion, in that the emotions of one athlete begin to shape and affect the emotions of another (i.e., an athlete 'catches' another athlete's feelings; Tamminen & Bennett, 2017).

Although individual thriving is considered a subjective state, thriving at a group-level may be more accurately described as intersubjective, in that this construct arises through meaningful social interaction between teammates (Tamminen & Bennett, 2017). More specifically, the emotions between teammates are co-created and result in the characterisation of a higher-level phenomenon (Tamminen & Bennett, 2017). Thus, in the context of thriving collectives, individuals who strongly identify as members of the team may be more likely to experience group-based emotions such as affect and vitality at the team-level—which are indicative of the well-being dimension of thriving. In addition, given that interdependent sporting contexts are highly susceptible to emotional contagion (Tamminen & Bennett, 2017), if one athlete is thriving, this may increase the likelihood that other teammates will thrive which, over time and through social interaction, may result in common, team or collective thriving. Similarly, it may also be true that athletes who are not thriving could negatively influence their teammates

608 and subsequently, hinder their team's ability to thrive. Altogether, when considering emotions as
609 an interpersonal phenomenon, it is expected that not only can individual team members
610 experience high levels of vitality and affect indicative of well-being, but so too can the team as a
611 whole.

612 **Are Some Team Members More Influential in Promoting Thriving Collectives?**

613 Another consideration pertaining to the emergence of thriving as a group-level construct
614 is whether specific team members may be more likely to shape the extent to which a team
615 perceives themselves to be thriving. For instance, Cross and colleagues (2003) examined the
616 energy (i.e., vitality) of team members at the individual, group, and organisational levels using an
617 'energy network.' Similar to that of social network analysis and the construction of sociograms,
618 energy networks provide information on which individuals are deemed 'energisers' (i.e., strong
619 performers) or 'de-energisers' (i.e., less reputable members) of a team (Cross et al., 2003). Given
620 that vitality serves as a key component of the well-being dimension of thriving, individuals who
621 are deemed 'energisers' and are central to the team (i.e., individuals that interact with the
622 majority of team members) may play a more significant role in promoting a shared belief that
623 one's team is thriving than peripheral members and/or 'de-energisers'. Similarly, and in relation
624 to performance, high performing team members such as starting players or leaders/captains may
625 play a more influential role in enhancing a team's perception that they are thriving in comparison
626 to non-starting or less skilled players. Taken together, energy networks may serve as a unique
627 methodological approach to examining which team members have the strongest potential in
628 contributing towards thriving perceptions at the group-level. Centrally positioning team members
629 who are thriving may also have important implications for promoting thriving amongst team
630 members and, over time, thriving at a collective level. Moreover, examining athletes' subjective

perceptions regarding which key social agents shape a team's belief that they are thriving together is an important future research consideration.

Do We Need Team Member Consensus to be Considered a Thriving Collective?

When exploring the emergence of collective constructs, researchers suggest that for a team-level phenomenon to manifest, team members must share similar perceptions pertaining to the indicators of said construct (i.e., indicators that thriving at a group-level is occurring; Kozlowski & Klein, 2000). Depending on whether the three forms of thriving are conceptualised as shared or configural constructs, this will subsequently influence whether team member consensus is required (Lang et al., 2018). For instance, if deemed shared, consensus is a key component of compositional emergence (Lang et al., 2018)—in that team members develop shared perceptions over time that their team is thriving. However, if conceptualised as configural, thriving emerges via compilational processes (i.e., some members may contribute more strongly to a thriving collective than others) and thus, examining the dispersion of perspectives is more meaningful. Accordingly, consensus is not required amongst all teammates but rather, it may be the case that only a baseline level or threshold needs to be met in that key members are thriving and perceive the collective to be thriving.

How Should Thriving at the Group-level be Analysed?

To date, collective thriving in the organisational context has been analysed using multilevel structural equation modelling (ML-SEM) to test for within- and between-unit influences (Walumbwa et al., 2018; Wu & Chen, 2019) as well as by performing a series of regressions (Xu & Wang, 2020). Given that athletes are embedded within hierarchically nested teams, it is likely for teammate interactions to influence individual perceptions (i.e., violation of independence; Bonito & Keyton, 2019). Thus, multilevel modelling—also known as hierarchical

or linear mixed modelling—can assist researchers in examining within- and/or between-unit differences pertaining to thriving at both the team and individual levels. By accounting for this nested structure of the data, multilevel modelling reduces the potential of a Type I error occurring (Hilbert et al., 2019). Given that this type of analyses has been previously advocated for in sport psychology (e.g., Martin et al., 2017), multilevel modelling could provide researchers with a more all-encompassing perspective of the dynamics at play when examining the emergence of individual and group-level thriving.

Part 4: Why is Examining Thriving through a Group-level Lens Important?

When it comes to thriving athletes, there is growing evidence to support the need to simultaneously promote both performance and well-being (e.g., Brown et al., 2021; Davis et al., 2021; Passaportis et al., 2022). Moving beyond the individual athlete, exploring thriving as a group-level construct serves as a salient avenue for promoting development and success at a team-level. In the following paragraphs, we outline the implications of examining thriving collectives in sport and end with concluding thoughts pertaining to advancing a systematic and coherent line of inquiry.

In the organisational domain, Spreitzer and Sutcliffe (2007) highlight various benefits associated with exploring thriving collectives including: (a) enhancing the vitality of our social and public environments, (b) improving the long-term sustainable performance of collectives (e.g., teams, work groups, organisations), (c) developing new behavioural routines to enhance decision-making and remain resilient in the face of adversity, and (d) reducing healthcare costs through the development of healthier and happier collectives. Given the increased emphasis that has been placed on promoting sporting environments that are conducive to whole-athlete development (e.g., Henriksen et al., 2020; Poucher et al., 2021; Purcell et al., 2019) these

benefits also hold value for athletes and key social agents (e.g., coaches, staff). For instance, if coaches are aware of the possibility for common, team, or collective thriving to emerge and subsequently, the factors that best enable and promote them (e.g., identifying 'energisers' on their team), invested sport partners can engage in purposeful activities (e.g., centrally positioning thriving athletes) to promote the development of thriving teams. Moreover, when reflecting upon the various social agents embedded within elite sporting contexts (e.g., support staff, coaches, practitioners), one may also consider the possibility for different types of thriving collectives to emerge (e.g., athlete-staff, staff only) depending on the roles and characteristics of group members. Thus, broadening our perspectives on thriving at a group-level to encompass key sport partners (e.g., coaches, support staff) is also a worthwhile endeavour.

Specific to team dynamics in sport, scholars have recognised the inevitability of group development, along with their unique implications for both individual (e.g., sport adherence) and team-level functioning (e.g., achieving collective goals; Eys et al., 2019). Thus, exploring thriving at a group-level in sport serves as a salient avenue to (a) bridge micro and macro perspectives pertaining to multilevel theory situated in team dynamics literature and (b) enhance the breadth of research pertaining to emergent states—and team dynamics more broadly, in the field of sport psychology. Multilevel research has been advocated across research fields including both team/group dynamics (e.g., Morgeson & Hofmann, 1999) and sport psychology (e.g., team resilience, Morgan et al., 2017; collective efficacy, Myers & Feltz, 2007). Moreover, it has been noted that when a multilevel approach is adopted, it is often from a top-down perspective, thereby overlooking the emergent phenomena that manifest through the interactions, characteristics, and behaviours of individuals (Kozlowski et al., 2013). Given the inherently interdependent and complex environment in which sport teams are embedded—in concert with

their nested nature, adopting a multilevel approach through a bottom-up lens is crucial in advancing a more complete understanding of collective phenomena in the sports context. More specifically, examining thriving at the group-level provides researchers with the unique opportunity to explore the linkages between lower-level (e.g., individual athlete thriving) and higher-level phenomena (e.g., common, team, or collective thriving) which altogether, could result in a more accurate and all-encompassing multilevel framework of thriving in sport.

Advancing research pertaining to team dynamics and more specifically, emergent states, is also integral for the field of sport psychology (Eys et al., 2020). To date, when examining emergent states in sport there has been an overreliance on cohesion and collective efficacy (e.g., Eys et al., 2019; Eys et al., 2020). While both constructs play important roles in promoting team effectiveness, neglecting to consider other emergent states (e.g., collective thriving, social identity, team resilience) that have been closely tied with enhanced team functioning can potentially hinder the development of this field (Eys & Brawley, 2018). Thus, broadening the scope of emergent states to include the exploration of thriving as a higher-level phenomenon serves as a fruitful avenue through which group dynamics research in sport can continue to be advanced. Moreover, when considering the structure of a team, given that sport types are increasingly being considered in relation to either task (i.e., the extent to which members must interact with each other when engaging in their sport) and outcome interdependence (i.e., the extent to which members must rely on one another to achieve superordinate goals; Evans et al., 2012), the implications of thriving at the group-level extend beyond a traditional individual versus team sport dichotomy. More specifically, thriving collectives can be examined across a diverse range of interdependent teams (e.g., a traditional team sport such as ice hockey versus a team where individuals contribute towards a collective score such as cross-country running)

offering novel future research directions pertaining to group-level thriving differences (e.g., enablers, processes) by team type.

Conclusion

The purpose of this paper was to propose three forms of group-level thriving in interdependent sport and advance key considerations and questions that merit further exploration. As demonstrated throughout this paper, there remains exciting new opportunities to advance our understanding of thriving collectives pertaining to conceptual and operational underpinnings. In doing so, researchers and practitioners can seek to maximise the benefits associated with these collective constructs. Altogether, the authors advocate for purposeful and systematic exploration of thriving as a higher level-phenomenon with the purview of fostering sporting environments that are conducive to whole athlete development and high functioning teams.

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