

Exploring Female University Athlete Experiences of Coping With Protracted Concussion Symptoms

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Concussions result in a multitude of somatic, cognitive, and/or emotional symptoms as well as physical and behavior changes and disturbances in balance, cognition, and sleep. Moreover, some concussed athletes can experience these symptoms, changes, and disturbances for extended periods of time. This qualitative study explored the coping skills used by five female university athletes who suffered persistent concussion symptoms for more than 6 weeks. Our analysis of the interview data indicated that the athletes used emotion-focused coping strategies, such as avoidance and acceptance, throughout their recovery. In addition, the lack of perceived control over their injuries, a lack of a symptom-specific treatment protocol, and the type of social support they received influenced their coping abilities. These results add to the limited, yet growing, body of literature on the psychology of sport-related concussions, particularly with respect to identifying the types of resources that athletes may use to cope and manage concussion symptoms.

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Over the past decade, sport-related concussions have received increased attention in popular books (Fainaru-Wada & Fainaru, 2014) and the academic literature (Bloom et al., in press; Kontos, 2017; McCrory et al., 2017). According to the Concussion in Sport Group, a sport-related concussion is a traumatic brain injury induced by biomechanical forces, which is often caused by a direct hit to the head, face, neck, or body that results in a rapid onset of neurological impairment (McCrory et al., 2017). Following a sport-related concussion, athletes have reported experiencing a number of challenges, including those that are cognitive (e.g., memory deficits), somatic (e.g., headaches), behavioral (e.g., irritability), and balance related (McCrory et al., 2017; Slobounov & Walter, 2020). Although the majority of sport-related concussion signs and symptoms for adults resolve within 2 weeks, approximately 20% of adult athletes experience *protracted* symptoms that can last for weeks, months, or even years after the initial injury (McCrory et al., 2017; Williams et al., 2015).

The longer an athlete's concussion symptoms persist, the more their quality of life is affected (McLeod et al., 2019; Weber et al., 2019). This is particularly the case for female athletes, who have a greater chance of suffering a concussion and who have reported more severe symptoms following their injuries compared with their male counterparts (Kontos et al., 2013; McGroarty et al., 2020). There is also evidence to suggest that female athletes are more likely than male athletes to develop severe emotional sequelae following concussion, and female athletes are also more likely than male athletes to experience protracted symptoms up to a year later (Broshek et al., 2005; McGroarty et al., 2020). Although there are a myriad of factors that play a role in an athlete's recovery from


concussion symptomology, researchers have noted that a lack of coping skills could adversely impact an athlete's recovery (Bloom et al., in press).

Coping is a concept that is central to understanding an athlete's psychological response to all injuries, including concussions. Coping has been defined as the "cognitive and behavioral efforts made to master, tolerate, or reduce external and internal demands of stress" (Folkman & Lazarus, 1980, p. 223). Folkman and Lazarus (1980) and Lazarus and Folkman (1984) suggested that there are two coping styles: (1) *problem-focused*, or efforts the individual makes in attempt to manage or alter the source of stress, and (2) *emotion-focused*, where the person attempts to regulate emotions related to the stress. Though emotion-focused coping efforts may be beneficial immediately after experiencing stress (i.e., injury), long-term usage of emotion-focused coping is linked to negative psychological and psychophysiological responses to stress (Carver et al., 1989).

Researchers who study psychological aspects of musculoskeletal athletic injuries have previously noted that athletes' emotional responses were largely determined by their coping efforts (Podlog, 2016). There are unique features of concussive injuries that could make it more difficult for athletes to employ coping strategies. For instance, unlike other types of athletic injuries, concussions are an invisible injury, and athletes must contend with the overlap of postconcussive symptoms and psychological responses to being injured (Bloom et al., 2004; Covassin et al., 2013; Kontos et al., 2013). Researchers have suggested that athletes with a concussion—especially female athletes—engage in more emotion-focused coping efforts, such as avoidance, self-distraction, behavioral disengagement, and self-blame (Covassin et al., 2013; Kontos et al., 2013). In the case of protracted concussions, how an athlete copes with their injury may have serious implications for their psychological and physical well-being (André-Morin et al., 2017). Despite this, researchers have yet to specifically investigate the coping behaviors of athletes with protracted concussions, and none have examined this topic within a female-only study sample.

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