

ORGANIZATIONAL FIT, TEAMMATE INTERACTIONS, AND PSYCHOLOGICAL  
NEEDS: WHY SOME ATHLETES EXPERIENCE BURNOUT

by

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## **I. INTRODUCTION**

One category of sports psychology research deals with the phenomenon where athletes no longer want to perform to the best of their ability. This phenomenon is called athlete burnout. The pressure athletes face to be successful is constant both during the season and during the off season. Due to the high level of attention sports require, it is important to understand what can influence burnout levels in athletes. Multiple factors have the potential to influence burnout levels such as peer leadership, relationships with teammates and coaches, and how well the organization provides for the needs that are required by the athletes. Therefore, this study explored several of these social contextual factors that can influence athlete burnout.

### **Burnout**

When attempting to understand what athlete burnout is, it is important to understand what athlete burnout is not. Athlete burnout is a distinct construct from depression and sport dropout. Despite depression and burnout both being negative affective experiences, they are very distinct psychological constructs (Cresswell & Eklund, 2006). Depression has more of a pervasive affective symptomatology while burnout has a central, but not sole, link to the athlete's sport experience (Cresswell & Eklund, 2006). When comparing burnout to sport dropout, it has been shown that they each represent a distinct potential outcome of chronic sport involvement (Smith, 1986). Burnout has the potential to cause some athletes to drop out, but not all athletes. Sport dropout can be a result of several other causes besides burnout. Other causes can be time constraints, personal choice, switching sports, or pursuing alternative activities (Raedeke, 1997).

It is also important to understand the definition of athlete burnout and the dimensions that it encompasses. Athlete burnout is defined as a multidimensional, cognitive-affective syndrome characterized by emotional and physical exhaustion, reduced sense of accomplishment, and sport devaluation (DeFreese, Raedeke, & Smith, 2015). The emotional/physical exhaustion dimension of burnout refers to emotional and physical fatigue that is a result of psychological and physical demands associated with training and/or competing. Some symptoms of emotional and physical fatigue are feeling excessively tired or lethargic, emotionally “drained,” and being unable to perform non-sport activities due to fatigue (DeFreese et al., 2015). The reduced sense of accomplishment dimension refers to inefficacy and negatively evaluating oneself in terms of sport performance and accomplishments. Some symptoms of this are a decrease in feelings of sport achievement, performing below personal standards, and consistent negative self-evaluation (DeFreese et al., 2015). Lastly, the sport devaluation dimension of athlete burnout refers to a negative and detached attitude toward sport that is accompanied with a lack of concern for sport and performance quality. Some symptoms of sport devaluation are reduced concern of sport performance quality, questioning the value/meaning of sport, and resentful attitude towards sport (DeFreese et al., 2015). Burnout was initially studied in relation to one’s occupation, more specifically those who work human service jobs. One common human service job that has been researched is teaching. The environment that teachers work in is often described as long hours, excessive expenditure of mental and emotional energy, and excessive expectation from principals and parents (Dale & Weinberg, 1990). The stressors that teachers face are similar to the stressors individuals face in competitive sport. There are long hours of

practice that require high levels of physical and mental energy and increased pressure levels on game day, which can create a prime environment for burnout (Dale & Weinberg, 1990).

Coaches are among the most studied individuals in sport burnout research. Their job fits the definition for human service or helping professions, which makes them more likely to experience burnout. One study looked at the difference in burnout levels between female and male coaches (Caccese & Mayerberg, 1984). A sample of 275 NCAA and AIAW Division 1 college coaches were selected for the study. The results showed that female coaches were more likely to experience burnout than males due to higher levels of emotional exhaustion and lower levels of personal accomplishment (Caccese & Mayerberg, 1984). Another study with Canadian university coaches reported that coaches who were full time, were experiencing a losing season, and had higher contact hours with their athletes showed higher burnout levels (Wilson, Haggerty, & Bird, 1986). Other studies, like Dale and Weinberg's 1989 study, have found several demographic variables related to burnout. Age has been shown to be negatively related to perceived burnout, and male coaches typically score higher than females on depersonalization subscales (Dale & Weinberg, 1989).

It is also important to examine athlete burnout to understand which factors may lead to burnout. Early studies that have looked at athlete burnout showed that athletes who experience higher levels of burnout have been competing for a long time, have trained very hard, and have felt high pressure about their performance from coaches and parents (Dale & Weinberg, 1990). Psychosocial factors also have the potential to initiate athlete burnout perceptions, making the social context a key consideration when studying

athlete burnout. One meta-analytic study, using studies with adolescent athletes, reported that a common result found in burnout research is an inverse relationship between burnout dimensions with social support and relatedness, and a positive relationship between burnout dimensions and negative social interactions (Pacewicz, Mellano, & Smith, 2019). These results show that the positive aspects of the sport social context, like social support and social interactions, have the potential to influence athlete burnout perceptions. Another study conducted in-depth interviews with burned out junior elite tennis players and found that 9 out of 10 players reported that social factors (e.g. dissatisfaction with the people involved in their sport, no social life, negative evaluations from parents, coach not helpful) led to their burnout (Gould, Tuffey, Udry, & Loehr, 1996). When examining the behaviors and interactions of salient others in sport, it has been shown that burned out athletes reported a significant level of negative interactions with not only coaches and parents but also their teammates (Gould, Udry, Tuffey, & Loehr, 1997).

Several studies have explored how these interactions with salient others and perceived stress influence athletes' burnout levels (Barcza-Renner, Eklund, Morin, & Habeeb, 2016; Raedeke & Smith, 2004; Smith, Gustafsson, & Hassmén, 2010). One study with senior level age-group swimmers used a survey to measure burnout, perceived stress, general coping behaviors, and social support satisfaction. The results showed that general coping skills and social support satisfaction were negatively related, and perceived stress was positively related to burnout levels (Raedeke & Smith, 2004). Smith et al. (2010) took this idea of perceived stress and examined it in conjunction with how the role of the social environment, more specifically the peer social context, may

influence athlete burnout. They had adolescent athletes (mean age = 17.2 years) complete questionnaires that assessed weekly training hours, perceptions of stress, task involving and ego-involving peer motivational climate, and burnout. The results showed that training hours, stress, and peer motivational climate variables predicted the components of burnout (emotional/physical exhaustion, reduced sense of accomplishment, sport devaluation). More specifically regarding peer climate, lower perceptions that peers valued effort and improvement and lower relatedness support were associated with higher scores on all the burnout components. This makes the claim that when athletes perceive their peer motivational climate as focusing less on mastery or self-referenced criteria for success, they are more likely to experience higher levels of burnout.

Another recent research study looked at the social environment but put a focus on coaching behavior as a potential predictor of burnout (Barcza-Renner et al., 2016). They assessed NCAA Division 1 swimmers three weeks before a conference championship meet. The results showed significant indirect effects between controlling coaching behavior and athlete burnout through athlete perfectionism. When the coach exhibited more controlling behaviors, it was shown to be associated with an increase in self-oriented perfectionism within the athletes, which in turn was associated with increased athlete burnout. In sum, these studies show how important the social environment is in influencing the experiences athletes have within their sport, which in turn can influence burnout levels.

### **Social-Contextual Factors**

How talented a sports team is plays a key role in the success of the team, but how well that talent is blended is what really drives the consistency of that success by

influencing motivational outcomes like burnout. This exact point was made when Michael Jordan said, “Talent wins games, but teamwork wins championships” (Jordan, 1994, pg. 24). Teamwork and group dynamics are key predictors of motivation and success for a sports team (Carron, Eys, & Burke, 2007). The members of a team must interact, work toward shared goals, adapt to environmental demands, and balance individual needs with those of other team members (Carron et al., 2007). These factors have the potential to influence the effective functioning of a group and the experience, more specifically burnout experiences, of the group members. This study will examine social factors in terms of teammate interactions and perceived fit with the sport organization.

Peer leadership is an example of a social behavior that has the potential to influence burnout experiences. Peer leadership can be defined as a process or experience between leaders and followers to achieve a common goal (Northouse, 2004). A peer leader can be a formal leader, such as a coach or team captain, or an informal leader regardless of role or status within the group (Price & Weiss, 2011). An informal leader can be someone who was not appointed or elected as a team captain but, for example, stepped up to guide the team through a difficult fitness session (i.e., achieving a common goal). Studies on athlete leadership have shown a presence of both informal and formal leaders on sport teams, but a majority of athlete leaders tend to be formal leaders, which means they are not only a part of the team but also provide an important connection between the team and the coaching staff (Loughead, Hardy, & Eys, 2006). The high presence of formal leaders suggests that from an athlete’s perspective it is important to have athlete leaders who have the consensus of their teammates to represent them (Loughead et al., 2006).

Typically, studies that have looked at leadership within sport only focused on the coach. However, it has been recognized that coaches believe athlete leadership is a key component for effective team performance (Loughead et al., 2006). Studies have shown that peer leadership is associated with more shared positive team behaviors, better social cohesion, enhanced team satisfaction and effort, higher perceived competence, and better friendship quality (Filho, Gershgoren, Basevitch, Schinke, & Tenenbaum, 2014; Moran & Weiss, 2006; Price & Weiss, 2011, 2013). One study with adolescent female soccer players found that athletes who were identified as peer leaders were higher in perceived competence, behavioral conduct, intrinsic motivation, and peer acceptance (Price & Weiss, 2011). In the same study it was also shown that athletes who rated their teammates higher on instrumental and prosocial leadership behaviors perceived greater social cohesion on their teams. These results show how important peer leaders are for team unity and cohesion (Price & Weiss, 2011). A similar study looked at how peer leadership, along with coach leadership, related to athletes' psychosocial and team outcomes (Price & Weiss, 2013). Adolescent female soccer players were asked to complete measures that assessed coach and teammate transformational leadership behaviors, perceived competence, intrinsic motivation, enjoyment, team cohesion, and collective efficacy. The results showed that peer leadership was strongly related to social cohesion, and coach and peer leadership were strongly related to task cohesion. Thus, peer leadership has the potential to predict greater relatedness, which has been shown to predict lower burnout levels.

Not only is it important for athletes to have social support for their sport participation, it is also important for them to have support for their activities outside of

their sport; this is referred as cross-domain relationships (CDRs). CDRs are another social factor that can influence burnout. Most definitions for CDRs involve coaches and their athletes. Stuntz and Spearance (2010) used CDRs to describe coach/athlete relationships that “involve knowing and caring about many aspects of an athlete’s life, rather than only aspects directly related to the sport context” (p. 267). CDRs include more than sport-only topics; they include discussions of non-sport aspects like family and school. “As communication about outside-sport topics is not strictly necessary to perform well in sport, CDRs may signal to athletes that they are valued, they are cared about, and that they are more than just a player on a team” (Stuntz & Spearance, 2010, p. 267). Stunz (2016) administered surveys to 294 collegiate athletes assessing their CDRs with the team’s head and assistant coach/es. The results showed that stronger CDRs with head coaches were related to higher perceived competence, enjoyment, and sport commitment, while CDRs with assistant coaches were not related to any of those things. Jowett et al. (2017) examined coach-athlete relationships, not specifically CDRs. They surveyed elite athletes from five countries (British, Chinese, Greek, Spanish, and Swedish athletes) on perceived coach-athlete relationship quality, basic psychological need satisfaction, self-determined motivation, and well-being. The results showed that when athletes perceived a higher quality of relationship with their coaches, they experienced higher levels of basic need satisfaction. The level of need satisfaction predicted self-determined motivation, which was related to enhanced well-being (Jowett et al., 2017).

There have been very few studies that have examined CDRs with teammates (Stunz & Spearance, 2010; Mefferd, McGee, & Kipp, 2020). In one study, college student-athletes who experienced cross-domain relationships with their teammates



showed higher levels of enjoyment and commitment to their sport, as well a stronger sense of perceived athletic competence (Stuntz & Spearance, 2010). Another study explored associations among college student-athletes' CDRs with coaches and teammates, identity, and self-perceptions using a survey (Mefferd et al., 2020). The results showed that greater CDRs with teammates significantly predicted greater perceived social acceptance and scholastic competence, and scholastic competence was shown to be a significant positive predictor of academic identity. The results of these two studies show how important CDRs are to not only self-perceptions and motivational outcomes in sport but also in academics. Other studies that have explored teammate interactions have shown several other teammate constructs that are related to burnout levels, such as social cohesion and social support (Pacewicz et al., 2019; Pacewicz, Smith, & Raedeke, 2020). In a meta-analysis, Pacewicz et al. (2019) showed that social support from teammates can help reduce emotional and physical exhaustion and perceptions of reduced accomplishment and can increase an athlete's perception of competence. The previous research studies show that relationships with teammates (e.g., CDRs and social support) tend to predict motivational outcomes including burnout.

Another construct that has the potential to influence athlete burnout levels is organizational/environmental fit. Fit has been a key concept found in organizational literature since the 1960s when fit models became popular (Kezar, 2001). The organizational fit models suggest that individuals are more successful and satisfied when their skills, aptitudes, values, and beliefs match the organizations they are affiliated with (Kezar, 2001). The resources that are desired by the individual, like workshops for new skills and breaks during the workday, and the resources that are provided by the

organization play key roles in the burnout process. When these desires are not well aligned, the individual is more likely to experience burnout and less likely to experience engagement. On the other hand, when the fit between the individual and organization is good, they are more likely to experience engagement and less likely to experience burnout (Leiter & Maslach, 1999). Research looking at the relationship between organizational fit and burnout has been more commonly seen in the work/job domain. The fit model that is widely used in this research is the job-person fit model. The job-fit model consists of six work life areas that are used to represent important domains of resources: workload, control, reward, community, fairness, and values (Leiter & Maslach, 2003). These dimensions are used when studying organizational fit in the workforce, but when it is studied in sport, the dimensions tend to be translated to time and effort, a hierarchical organizational structure, incentives, team social interactions, and shared goals (DeFreese et al., 2015).

When we discuss organizational fit in a sport environment, it refers to how well the sport fulfills the athlete's goals and wants. Studies have examined how well the job-fit model dimensions translate into the sport world, and how they link with athlete burnout and engagement perceptions (DeFreese & Smith, 2013; DeFreese et al., 2015). DeFreese and Smith (2013) conducted a study with collegiate football players using the Areas of Worklife Survey, along with the Athlete Burnout Questionnaire and Athlete Engagement Questionnaire, to determine how well the six areas of work life translated to sport. The results showed that the areas of work life are pertinent in sport like they are in work settings. This suggests that all six domains of the job-fit model are seen in the sport realm (DeFreese & Smith, 2013). For example, the community dimension of the job-fit

model corresponds with the team social interaction dimension of sport, and the reward job-fit dimension corresponds with the incentives dimension of sport. The results of this study also showed that the global areas of work life strongly predicted both burnout and engagement.

Organizational stress is one aspect of organizational fit commonly seen in fit literature. The more stress an individual experiences, the less organizational fit they have. Workplace stress and burnout affects between 19% and 30% of employees in the general working population (Finney et al., 2013). Workplace stress can be defined as the psychological distress or strain that is a result of both individual and organizational stressors in the workplace. Long term workplace stress can lead to burnout in the workplace, and is described by feelings of exhaustion, cynicism, detachment, ineffectiveness, and lack of personal accomplishment (Finney et al., 2013). It has been shown that burnout is related to stress, meaning that the presence of burnout is usually a result of the presence of stress (Landrum et al., 2012). Stress in the workplace and burnout can lead to a decrease in organizational commitment and lower productivity. Research has also consistently shown a link between role stressors and a list of psychological and physical symptoms, like burnout (Iverson, Olekalns, & Erwin, 1998). Role stress is a result of increased demands placed on an individual when they are required to reconcile conflicting task requirements or seek additional information to clarify task-related goals (Cooper & Marshall, 1976). For example, if an individual is asked to take on extra work but it is outside of their understanding or expertise, they may have to constantly check in with other individuals to make sure they are doing the task

correctly. This can lead to the individual having to dedicate more time to the extra task than they had originally planned or more than they must give.

In terms of organizational stressors in sport, an increase in emotional exhaustion and depersonalization along with a decrease in personal accomplishment are results of role stress (Iverson et al., 1998). Role stress leads to key symptoms, or dimensions, that can be found in the definition of burnout. For athletes, their organization includes their sport environment (e.g., coaches, teammates, administration) and the field or court is their workplace. If athletes experience stressors within their job/organization it has the potential to cause a decrease in commitment and productivity in terms of improving their own success and skill as well as helping their team increase in success and skill (Arnold, Edwards, & Rees, 2018). Hanton, Feltcher, and Coughlan (2005) interviewed ten international elite athletes about the source/s of their stress. Stressors associated with competitive performance were categorized as “performance issues,” and stressors associated with the sport organization were put into four categories (“environmental issues,” “personal issues,” “leadership issues,” and “team issues”). The results showed that participants mentioned experiencing more stressors associated primarily and directly with the sport organization than with competitive performance (Hanton et al., 2005). Research has also shown that stressors, like increased pressure from others and the need for a social life, contribute to an athlete’s burnout levels (Gould et al., 1997). Other qualitative research with older elite athletes has found that situational and organizational factors (e.g. work/school demands, logistical concerns, and a lack of social support) also influence athlete burnout levels (Gustafsson, Hassmén, Kenttä, & Johansson, 2008).

These results show evidence that when an athlete experiences more stress associated with their sport it can contribute to more burnout.

### **Theoretical Frameworks**

Social contextual factors and burnout can be examined through self-determination theory (SDT). Self-determination theory states that people have three basic psychological needs (autonomy, competence, and relatedness), that are influenced by the social context, and these needs influence an individual's self-determined motivation and well-being.

Autonomy relates to feelings of personal choice or control, competence is the sense of success and being effective in one's environment, and relatedness is the social connection with others that is reflected by feelings of acceptance and belonging (Deci & Ryan, 1985, 2000). Burnout is an aspect of well-being, meaning that psychological need satisfaction can play a role in the level of burnout they experience. When the three needs are met, a person's motivation and psychological well-being are maximized (Deci & Ryan, 1985) and they are less likely to experience burnout. If these three needs are not met, there is a potential for lower motivation levels and higher burnout. Self-determination theory is a general theory of motivation and has led to several experimental and field studies looking at how factors like rewards, sanctions, use of authority, provision of choice, and level of challenge influence individuals' experiences, and in turn their behavioral persistence and outcomes (Deci & Ryan, 2000). This theory has been advocated as a strong theoretical lens that can be used to examine the potential antecedents of athlete burnout.

Studies have shown that lower basic need satisfaction, lower balance of the three basic needs, decreased well-being, and self-determined motivation have been associated with burnout (Amorose, Anderson-Butcher, & Cooper, 2009; Hodge, Lonsdale, & Ng,

2008; Lemyre, Treasure, & Roberts, 2006; Perreault, Gaudreau, Lapointe, & Lacroix, 2007). Hodge et al. (2008) examined athlete burnout antecedents in elite rugby using SDT. Male rugby players from 11 New Zealand Rugby Union player development academies (mean age = 19.7 years) were given a survey that measured athlete burnout and the athletes' perceptions of the three basic needs. The results of this study suggest that a lack of basic needs fulfilment is associated with higher levels of devaluation of one's sport participation and lower sense of accomplishment, which are both sub-categories of burnout. Amorose et al. (2009) explored adolescent club female volleyball players' well-being and needs satisfaction but looked at it over the course of a competitive season. Basic need satisfaction and well-being were assessed twice during the season (preseason and post season) using questionnaires. The results showed that higher levels of needs satisfaction were related to higher self-esteem and lower levels of burnout. These results further emphasize that when athletes' basic psychological needs are met, they are less likely to experience burnout over the course of the sport season.

Athlete burnout can also be explored using stress-based theoretical perspectives because of the relationship between organizational stressors and organizational fit and burnout. The first theoretical perspective is the cognitive-affective stress model. In sport, emotion has been found to be, implicitly and explicitly, associated with the term stress (Long, 1980). The cognitive-affective stress model states that burnout is a consequence of chronic stress caused by both physical and psychological demands on the athlete (Smith, 1986). Studies looking at physically active populations have strongly suggested that the participants' appraisal processes have significant affective and behavioral consequences

(Vallerand, 1987). This model helps to make a link between the frequency of organizational stressors, and how they can influence an athlete's burnout levels.

The second stress-based theoretical perspective that was used is the negative-training stress response model. Sport involves considerable training demands, and the chronic stress of physical training has the potential to cause athlete burnout. This model specifically states that physical training causes stress for athletes and without positively adapting to this stress, burnout can occur (Silva, 1990). Training stress can have both a positive and negative adaptation response. The positive adaptations to training stress are desirable and generally demonstrate the appropriate responses to physical and psychological overloads. On the other hand, the negative responses to training stress are hypothesized to follow a continuum from staleness to overtraining to burnout (Silva, 1990). The overtraining syndrome that can occur is a result of an imbalance between training stress and recovery and is often in addition to other stressors. Overtraining syndrome is defined as prolonged performance decline, negative feelings, and exhaustion along with several other psychophysiological markers that remain present despite rest and training reductions (Meeusem et al., 2013; Raglin & Wilson, 2000). Overtraining can lead to an increased frequency of stressors and the lack of ability to adapt to training stress; if the organization does not provide adequate coping techniques (low organizational fit) then an athlete may be more likely to experience burnout. Using the Organizational Stressor Indicator for Sport Performers in the present study will help determine the frequency of stressors that are experienced by the athlete and the category these stressors are associated with to determine whether relationships in sport or the physical training schedule tend to be more frequent stressors.

## **Purpose, Hypotheses, and Gaps in Literature**

Based on theory and past research, the purpose of this study was to examine relationships among social contextual factors (organizational stressors, peer leadership, CDRs with teammates), psychological need satisfaction (perceived competence, autonomy, relatedness), and burnout in collegiate athletes. It was hypothesized that perceptions of peer leadership and CDRs with teammates will be positively associated with psychological need satisfaction, and that peer leadership, CDRs with teammates, and psychological need satisfaction will be negatively associated with burnout. It was also hypothesized that organizational stressors will be negatively associated with psychological need satisfaction and positively associated with burnout. A secondary purpose was to explore group differences on burnout by gender. There have been few studies looking at the potential differences in burnout between males and females. One study, however, did show a higher level of “reduced sense of accomplishment” in females when compared to males (Isoard-Gauthier, 2015). Another study showed that females in the workplace tend to be more emotionally exhausted than their male counterparts (Purvanova & Muros, 2010). A third study showed statistically significant interaction effects between gender and athlete burnout (Davis, Stenling, Gustafsson, Appleby, & Davis, 2019). The interaction effect showed that younger male athletes need more of a focus put on building relationships to help reduce their level of burnout because they lack the skills needed to do it on their own. Due to these results, it is hypothesized that female athletes will have higher burnout than male athletes. A third purpose, due to the historic Covid-19 pandemic that has been affecting athletics for the past year, was to explore how Covid-19 affected athletes’ experiences. This allowed for a



better understanding of the main results, within the context of Covid-19. A participant's burnout levels may be a mixture of stress from sport related factors and from outside situational factors, like the presence of Covid-19.

This study will help fill several gaps in the literature. It is important to consider both the individual and the environmental/social context because it can help explain why some athletes experience burnout and some do not within the same circumstances. It will also provide more understanding on why burnout occurs in some athletes and not in others. There have been many studies examining coach/athlete interactions and burnout rates (Davis, Appleby, Wetherell, & Gustafsson, 2018; Isoard-Gautheur, Trouilloud, Gustafsson, & Guillet-Descas, 2016; Loughhead, Hardy, & Eys, 2006; McGee & DeFreese, 2019) but there have been few on the interactions of athletes and teammates and burnout rates (Al-Taaribi & Kavussanu, 2017; DeFreese & Smith, 2013). This study will help fill that gap in the literature by looking at peer leadership and cross-domain relationships with teammates. Organizational fit has only recently been explored in the sport context; this study will examine how organizational fit (measured as organizational stressors), together with peer variables, relate to athletes' psychological need satisfaction and burnout in college athletes.

## II. METHOD

### Participants

Participants included 68 Division 1 and 3 collegiate athletes, ranging from ages 18-23 years-old ( $M = 19.60$ ,  $SD = 1.20$ ). There were 33 males and 35 females. There was a mixture of academic standings (freshman = 32.4%, sophomore = 35.3%, junior = 13.2%, senior = 16.2%, fifth year senior = 1.5%, graduate = 1.4%). All athletes participated in either an individual or team sport at the time of the study. The following sports were represented: women's soccer, men's soccer, volleyball, wrestling, women's basketball, baseball, women's cross country and track, men's cross country and track, men's golf, and men's tennis. The average training hours per week was 10.59 ( $SD = 8.29$ ) and average years with the current coach was 1.56 ( $SD = 1.02$ ).

### Measures

**Organizational fit.** The Organizational Stressor Indicator for Sport Performers (OSI-SP) was used to measure the organizational stressors an individual was experiencing (Arnold, Fletcher, & Daniels, 2013). The OSI-SP is a 23-item indicator that measures the frequency, intensity, and duration of organizational stressors athletes face. For this particular study, questions that measure frequency were used. For example, the stem question reads "In the past month, I have experienced pressure associated with..." and a list of options found in Table 1 were shown. Athletes were asked, "how often did this pressure place a demand on you?" Answers ranged from 1 to 5 (1 = "never," 5 = "always"). Intensity, duration, and frequency of stressors are mutually exclusive, meaning one does not influence the other and there is little to no relationship between them. The decision to measure frequency was made because it has been shown the

frequency of stressors have the potential to influence burnout levels more than the intensity or duration (Wagstaff et al., 2018). The scale consists of five subscales: goals and development, logistics and operations, team and cultures, coaching, and selection (Arnold et al., 2013). Responses for each subscale were averaged to form subscale scores. Subscale scores and global organizational stress were examined. This measure was determined to be reliable and valid with adolescent athletes by Arnold et al. (2013). Table 1 shows the items and subscales for the OSI-SP.

Table 1.

*Subscales and Items for OSI-SP (Arnold et al., 2013)*

Goals and Development	<ol style="list-style-type: none"> <li>1. The spectators that watch me perform</li> <li>2. My goals</li> <li>3. Injuries</li> <li>4. The food that I eat</li> <li>5. The development of my sporting career</li> <li>6. My training schedule</li> </ol>
Logistics and Operations	<ol style="list-style-type: none"> <li>1. The technology used in my sport</li> <li>2. Traveling to or from training or competitions</li> <li>3. The organization of the competitions that I perform in</li> <li>4. The training or competition venue</li> <li>5. The accommodation used for training or competition</li> <li>6. What gets said or written about me in the media</li> <li>7. The regulations in my sport</li> <li>8. The funding allocations in my sport</li> <li>9. The organization that governs and controls my sport</li> </ol>
Team and Culture	<ol style="list-style-type: none"> <li>1. The atmosphere surrounding my team</li> <li>2. My teammates' attitudes</li> <li>3. The responsibilities that I have on my team</li> <li>4. The shared beliefs of my teammates</li> </ol>
Coaching	<ol style="list-style-type: none"> <li>1. The relationship between my coach and I</li> <li>2. My coach's personality</li> </ol>
Selection	<ol style="list-style-type: none"> <li>1. How my team is selected</li> <li>2. Selection of my team for competition</li> </ol>

**Peer leadership.** Glenn and Horn's (1993) 10-item Sport Leadership Behavior Inventory (SLBI) was used to measure the presence and quality of peer leadership behavior on an individual's sport team. The SLBI provides participants with a list of 10 descriptors of leadership (determined, positive, motivated, consistent, organized, responsible, skilled, confident, honest, and leader). The participants were instructed to think about their captain and one other person that is not an official captain but they see as a leader on their sport team, and answer each item on a 7-point scale: (1) "never like him/her", (2) "usually not like her/him", (3) "sometimes like him/her", (4) "occasionally like him/her", (5) "often like her/him", (6) "usually like her/him", (7) "always like him/her". Items were averaged to form an overall leadership rating. This measure was determined to be reliable and valid with high school athletes by Glenn and Horn (1993). Table 2 shows the items for the SLBI.

Table 2.

*Stem and Items for SLBI (Glenn & Horn, 1993)*

<p><b>Think about the captain</b> of your sports team and write their initials here to remind you to think of him or her while responding to the following. _____</p> <p>Read the following descriptors and rate how much each one describes your captain.</p>	<ol style="list-style-type: none"> <li>1. Determined</li> <li>2. Positive</li> <li>3. Motivated</li> <li>4. Consistent</li> <li>5. Organized</li> <li>6. Responsible</li> <li>7. Skilled</li> <li>8. Confident</li> <li>9. Honest</li> <li>10. Leader</li> </ol>
<p><b>Think about another teammate</b> on your sports team who you consider a leader. Write their initials here to remind you to think of him or her while responding to the following. _____</p> <p>Read the following descriptors and rate how much each one describes this teammate.</p>	<ol style="list-style-type: none"> <li>1. Determined</li> <li>2. Positive</li> <li>3. Motivated</li> <li>4. Consistent</li> <li>5. Organized</li> <li>6. Responsible</li> <li>7. Skilled</li> <li>8. Confident</li> </ol>

Table 2. Continued

	9. Honest 10. Leader
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**Cross-domain relationships.** A measure used by Stuntz and Spearance (2010) was chosen for this study to assess cross-domain relationships (CDRs). Questions that pertained to CDRs with teammates were used for this study, which resulted in a shortened seven question version of the scale. Questions like “I feel comfortable approaching my teammates about issues outside of sport” and “In general, my teammates are supportive of my non-sport interests” were asked. Responses were on a 5-point scale: (1) “strongly disagree”, (2) “disagree”, (3) “neither agree nor disagree”, (4) “agree”, and (5) “strongly agree” (Stuntz & Spearance, 2010). Items were averaged to form an overall score for cross-domain relationships with teammates. The questions in this measure were found reliable and valid with collegiate athletes by Stunz and Spearance in their 2010 study. Table 3 shows the items for the measure.

Table 3.

*Scale and Items for CDR measure (Stuntz & Spearance, 2010)*

CDRs with teammates	<ol style="list-style-type: none"> <li>1. In general, my teammates know how well I do in school</li> <li>2. In general, my teammates care about aspects of my life outside of sport</li> <li>3. In general, my teammates know about my whole life, not just about what happens in sport</li> <li>4. I feel comfortable approaching my teammates about issues outside of sport</li> <li>5. In general, my teammates are supportive of my non-sport interests</li> <li>6. In general, my teammates help me achieve my goals outside of sport</li> </ol>
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**Psychological needs satisfaction.** The Basic Needs Satisfaction in Sports Scale (BNSSS) was used to measure individual perceptions of autonomy, competence, and relatedness. The BNSSS is a 20-item scale that asks questions that help measure competence (e.g. “I am skilled at my sport”); three aspects of autonomy including choice (e.g. “In my sport, I have a say in how things are done”), internal perceived locus of causality (e.g. “In my sport, I feel I am pursuing goals that are my own”), and volition (e.g. “I feel I participate in my sport willingly”); and relatedness (e.g. “In my sport I feel close to other people”). Participants are asked to respond to each question using a 7-point Likert scale (1 = “Not true at all”, 7 = “Very true”). They were also asked to think about their feelings and experiences in their major sport when answering the questions. This measure was deemed valid and reliable with athletes attending a university in New Zealand (Ng et al., 2011). Table 4 shows the items for the BNSSS. Responses for each subscale were averaged to form subscale scores for competence, autonomy, and relatedness. Subscales were examined, as well as basic need satisfaction as a composite scale.

Table 4.

*Subscales and Items for BNSSS (Ng et al., 2011)*

Competence	<ol style="list-style-type: none"> <li>1. I can overcome challenges in my sport</li> <li>2. I am skilled at my sport</li> <li>3. I feel I am good at my sport</li> <li>4. I get opportunities to feel that I am good at my sport</li> <li>5. I have the ability to perform well in my sport</li> </ol>
Choice	<ol style="list-style-type: none"> <li>1. In my sport, I get opportunities to make choices</li> <li>2. In my sport, I have a say in how things are done</li> <li>3. In my sport, I can take part in the decision-making process</li> <li>4. In my sport, I get opportunities to make decisions</li> </ol>
Internal perceived locus of causality	<ol style="list-style-type: none"> <li>1. In my sport, I feel I am pursuing goals that are my own</li> <li>2. In my sport, I really have a sense of wanting to be there</li> <li>3. In my sport, I feel I am doing what I want to be doing</li> </ol>
Volition	<ol style="list-style-type: none"> <li>1. I feel I participate in my sport willingly</li> <li>2. In my sport, I feel that I am being forced to do things that I don't want to do (reversed coding)</li> <li>3. I choose to participate in my sport according to my own free will</li> </ol>
Relatedness	<ol style="list-style-type: none"> <li>1. In my sport, I feel close to other people</li> <li>2. I show concern for others in my sport</li> <li>3. There are people in my sport who care about me</li> <li>4. In my sport, there are people who I can trust</li> <li>5. I have close relationships with people in my sport</li> </ol>

**Burnout.** Raedeke and Smith's (2001) Athlete Burnout Questionnaire (ABQ) was used to measure the burnout levels of the athletes. This questionnaire measures three dimensions of athlete burnout: emotional/physical exhaustion (e.g. "I feel overly tired from my sport participation"), reduced sense of accomplishment (e.g. "I don't feel

confident about my athletic ability”), and sport devaluation (e.g. “I don’t care as much about my sport performance as I used to”). It consists of 15 items and respondents rate how much they experience each item on a 5-point Likert Scale: (1) “almost never”, (2) “rarely”, (3) “sometimes”, (4) “frequently”, and (5) “almost always”. Responses for each subscale were averaged to form subscale scores. Subscales and overall burnout were examined. This scale has shown good validity and reliability with college athletes (Raedeke & Smith, 2001). Table 5 shows the subscales and items for the ABQ.

Table 5.

*Subscales and Items for the ABQ (Raedeke & Smith, 2001)*

Devaluation	<ol style="list-style-type: none"> <li>1. The effort I spend in my sport would be better spent doing other things</li> <li>2. I don’t care as much about my sport performance as I used to</li> <li>3. I’m not into my sport like I used to be</li> <li>4. I feel less concerned about being successful in my sport than I used to</li> <li>5. I wonder if my sport is worth all the time and energy I put into it</li> </ol>
Reduced sense of accomplishment	<ol style="list-style-type: none"> <li>1. I am accomplishing many worthwhile things in my sport</li> <li>2. I don’t feel confident about my athletic ability</li> <li>3. I am not performing up to my ability in my sport</li> <li>4. It seems that no matter what I do, I don’t perform as well as I should</li> <li>5. I feel successful at my sport</li> </ol>
Emotional/physical exhaustion	<ol style="list-style-type: none"> <li>1. I feel so tired from my training that I have trouble finding energy to do other things</li> <li>2. I feel overly tired from my sport participation</li> <li>3. I feel “wiped out” from my sport</li> <li>4. I feel physically worn out from my sport</li> <li>5. I feel like I don’t have any energy from my sport</li> </ol>

**Demographic questions.** A handful of demographic questions about the participant’s gender, age, race/ethnicity, and details about their sport were asked. Examples of questions asked about the sport are “how many hours per week do you



spend training for your sport?” and “how many seasons have you been involved in your current sport?”

**Open-ended questions.** Three open-ended questions about how COVID-19 has influenced the participant and their sport were also asked (i.e., “How has COVID-19 affected your sport”, “How has COVID-19 affected your motivation for your sport”, and “How has COVID-19 affected your relationships with your coaches and/or teammates”). Participants could type as much or as little as they wanted in response to these questions.

### **Procedure**

One hundred fifty collegiate sports teams were contacted for this study. The coaches for each sports team were contacted via email or phone. Once coaches agreed to having their athletes participate in the study, a survey link was sent, using Qualtrics, to the coach along with an email script. Coaches were asked to send the email to their athletes and copy the researchers on the email. The participants were asked to complete the survey within a week of being sent the link. Before the survey began, a consent form was shown on the screen. If the participant clicked ‘yes’ they were able to continue with the survey; if the participant clicked ‘no’ they were taken to a ‘thank you’ screen. The collective total of survey items was 98. For organizational fit, psychological need satisfaction, and burnout, items for each subscale were systematically spread evenly throughout that section of the survey. For example, participants completed an item for competence, then autonomy, then relatedness, rather than all competence items in a row. This approach aimed to decrease the risk of survey fatigue. The average time it took participants to complete the survey was 12.73 minutes.

## Data Analysis

First, all items that needed to be reverse scored were reversed. There were three missing data points (0.05%), so the harmonic mean was used for the corresponding subscale to impute the missing scores. Harmonic mean is appropriate when  $< 5\%$  of the data are missing (Tabachnick & Fidell, 2013). One participant did not complete the informal peer leadership section and was removed from any analysis with that scale. Each subscale was then tested for reliability using Chronbach's alpha, followed by each scale as a whole. Descriptive statistics were calculated for all variables, and correlations were conducted between variables of interest. The relationship was determined weak if the correlation was 0.10-0.29, moderate if it was between 0.30-0.49, and strong if it was 0.50 or higher (Cohen, 1992). To address the main purpose, regression analyses were used to test the relationships among the social-contextual factors (organizational fit, cross-domain relationships and peer leadership), psychological need satisfaction, and athlete burnout.  $F$  and  $t$  values were examined for significance ( $p < 0.05$ ), and  $R^2$  was used as effect size (0.02 is a small effect, 0.13 is medium, and 0.26 is large; Cohen, 1992). An independent  $t$ -test was used to address the second purpose of gender differences on burnout experiences. Significance was set at  $p < 0.05$ . SPSS software (version 25) was used. Findings were interpreted relative to the study purposes and hypotheses.

A power analysis was conducted using G\*Power, version 3.1, to determine the sample size needed for the  $t$ -test and regression analyses. For the  $t$ -test, 21 males and 21 females were needed to find a large effect, with significance set at 0.05 and power of 0.80. For the regression analyses, with significance set at 0.05, power of 0.80, and 4

predictors, 40 participants were needed to find a large effect, and 85 participants were needed to find a medium effect.

We used inductive analysis for the qualitative, open-ended Covid-19 questions. Responses were extracted from the excel file and put into a separate word document. From there, data units were highlighted and pasted into a separate document. Those data units were examined for emergent lower order themes. After each data unit was assigned to a lower order theme, the lower order themes were then categorized into higher order themes. The researchers met to discuss the themes and came to a consensus on the final data units, lower order themes, and higher order themes.

### III. RESULTS

#### Scale Reliabilities

In general, scales that have an alpha coefficient of .70 or higher are deemed to be an acceptable index of internal consistency reliability (Tabachnick & Fidell, 2013). All subscales for organizational fit, psychological needs, and burnout achieved acceptable alpha coefficients, along with the overall scales themselves (see Table 6). The informal peer leadership, formal peer leadership, and cross domain relationships scales also achieved acceptable alpha coefficients (see Table 6). There were no scales or subscales that fell below .70, therefore all scales were used for further analysis.

#### Descriptive Statistics

Means and standard deviations can be seen in Table 6. Athletes reported relatively high levels of competence, autonomy, and relatedness; relatively high levels of formal and informal leadership; relatively low levels of organizational stressors; relatively low levels of burnout; and moderate levels of cross domain relationships with teammates. Correlations of interest can be found in Table 7. Correlations among the psychological needs and burnout showed strong negative relationships ( $r = -.67$  to  $-.74$ ). Burnout and organizational stressor subscales, as well as burnout with overall organizational stress, showed moderate to moderately high positive correlations ( $r = .36$  to  $.55$ ). Informal and formal peer leadership were moderately negatively correlated with burnout ( $r = -.40$ ,  $r = -.42$ ), while cross domain relationships with teammates was highly negatively correlated with burnout ( $r = -.65$ ). Psychological needs and leadership values were low to moderately correlated ( $r = .26$  to  $.41$ ). Cross domain relationships with teammates was strongly correlated with psychological needs ( $r = .60$ ).

Table 6.

*Means, Standard Deviations, and Reliabilities*

Scale or Subscale	<i>M</i>	<i>SD</i>	Scale Range	Cronbach's alpha
<b>Organizational Stressors</b>	2.35	.74	1-5	.93
Goals & Development	2.79	.82	1-5	.75
Logistics & Operation	1.99	.77	1-5	.88
Team & Culture	2.47	.94	1-5	.80
Coaching	2.41	1.23	1-5	.84
Selection	2.39	1.06	1-5	.78
<b>Formal Peer Leadership</b>	6.06	.91	1-7	.91
<b>Informal Peer Leadership</b>	6.20	.79	1-7	.90
<b>Cross Domain Relationships with Teammates</b>	3.75	.78	1-5	.87
<b>Psychological Needs</b>	5.79	.88	1-7	.93
Competence	5.78	.94	1-7	.86
Autonomy	5.67	1.04	1-7	.91
Relatedness	6.06	.97	1-7	.86
<b>Burnout</b>	2.38	.75	1-5	.87

Table 7.

*Correlations of Interest Among Study Variables*

	Psychological Needs Satisfaction	Burnout
<b>Organizational Stressors</b>	-.39	.51
Goals & Development	--	.45
Logistics & Operation	--	.36
Team & Culture	--	.48
Coaching	--	.55
Selection	--	.41
<b>Formal Peer Leadership</b>	.41	-.42
<b>Informal Peer Leadership</b>	.26	-.40
<b>Cross Domain Relationships with Teammates</b>	.60	-.66
Competence	--	-.67
Autonomy	--	-.74
Relatedness	--	-.67

**Relationships Among Social-Contextual Factors, Psychological Need Satisfaction, and Athlete Burnout**

Four regression analyses were conducted. Standardized coefficients and *t*-values are reported in Tables 8-11. First, a regression analysis was conducted for social contextual factors and psychological needs satisfaction. Cross domain relationships with teammates, informal peer leadership, formal peer leadership, and organizational stressors were the predictor variables and psychological needs satisfaction was the criterion variable. The overall effect was significant,  $F(4,61) = 12.46, p < .05$ . Regression

coefficients and associated *t*-tests indicated that cross domain relationships with teammates ( $\beta = .54$ ) was a significant predictor of psychological needs satisfaction. The other predictors were not significant. For athletes, social contextual factors explained 45% of the variance in psychological needs satisfaction, which is a large effect (Cohen, 1992).

Second, a regression analysis was also conducted for social contextual factors and burnout. Cross domain relationships with teammates, informal peer leadership, formal peer leadership, and organizational stressors were the predictor variables and burnout was the criterion variable. The overall effect was significant,  $F(4,60) = 20.9, p < .05$ . Regression coefficients and associated *t*-tests indicated that organizational stressors ( $\beta = .28$ ) and cross domain relationships with teammates ( $\beta = -.50$ ) were significant predictors of burnout. For athletes, social contextual factors explained 58% of the variance in burnout, a large effect.

For burnout and psychological needs, a regression analysis was conducted. Perceived competence, autonomy, and relatedness were the predictor variables and burnout was the criterion variable. The overall effect was significant,  $F(3,63) = 38.39, p < .05$ . Regression coefficients and associated *t*-tests indicated that perceived competence ( $\beta = -.22$ ), autonomy ( $\beta = -.24$ ), and relatedness ( $\beta = -.23$ ) were significant predictors of burnout. Psychological needs explained 64% of the variance in burnout, a large effect.

Lastly, a regression analysis was conducted for organizational stress subscales and burnout. Goals, logistics, culture, coach, and selection were the predictor variables and burnout was the criterion variable. The overall effect was significant,  $F(5,61) = 6.87, p < .05$ . Regression coefficients and associated *t*-tests indicated that only coaching ( $\beta =$

.26) was a significant predictor of burnout. Organizational stress subscales explained 36% of the variance in burnout, a large effect.

Table 8.

*Standardized Coefficients and t-values for Social Contextual Variables Predicting Psychological Needs Satisfaction*

Predictor Variable	Psych Needs	
	$\beta$	$t$
CDRs with teammates	.48	4.70*
Informal Leadership	-.03	-.30
Formal Leadership	.21	1.91
Organizational Stressors	-.19	-1.82

*Note.* \* denotes significant at  $p < .05$ .

Table 9.

*Standardized Coefficients and t-values for Social Contextual Variables Predicting Burnout*

Predictor Variable	Burnout	
	$\beta$	$t$
CDRs with teammates	-.51	-5.57*
Informal Leadership	-.12	1.27
Formal Leadership	-.11	-1.14
Organizational Stressors	.27	2.97*

*Note.* \* denotes significant at  $p < .05$ .



Table 10.

*Standardized Coefficients and t-values for Psychological Needs Subscales Predicting Burnout*

Predictor Variable	Burnout	
	$\beta$	$t$
Competence	-.28	-2.68*
Autonomy	-.34	-2.79*
Relatedness	-.30	-2.96*

*Note.* \* denotes significant at  $p < .05$ .

Table 11.

*Standardized Coefficients and t-values for Organizational Stressor Subscales Predicting Burnout*

Predictor Variable	Burnout	
	$\beta$	$t$
Goals	.24	1.67
Logistics	-.13	-.83
Culture	.16	.98
Coaching	.43	2.73*
Selection	-.05	-.33

*Note.* \* denotes significant at  $p < .05$ .

### **Gender Difference on Burnout**

An independent samples  $t$ -test was conducted to see if there was a difference in burnout levels between males and females. Males ( $M = 2.26$ ) and females ( $M = 2.50$ ) did not differ,  $t = -1.25$ ;  $p > .05$ .

## Qualitative Themes

Three higher-order themes emerged: effect on mental state, effect on social relationships, and effect on daily and sport schedule. The lower order themes within each higher order theme are described below. These themes depict how the athletes were affected by the Covid-19 pandemic.

**Effect on mental state.** The lower order themes that fell under this category were *felt anxious and depressed*, *hard to stay motivated*, *no effect on motivation*, *more internal drive*, and *unfair effect on me*. These lower order themes emerged from answers that included details on how the athlete's mentality towards their sport changed, how their mental state overall was changed, and "I" statements that pointed to how Covid-19 affected their own personal situation. More specifically, the *felt anxious and depressed* theme told us that the Covid-19 pandemic influenced the athletes' mood, and was not directly related to their sport. An example quote representing this theme is, "Kinda put me in a dark place for a while." The *hard to stay motivated*, *no effect on motivation*, and *more internal drive* themes all dealt with answers that were sport and motivation specific. It showed the researchers that due to the pandemic athletes experienced either lower, higher, or the same motivation towards their sport. It also allowed the researchers to see how the pandemic affected individuals differently. Example quotes for these themes are, "Diminished my motivation by making me think there is no point in playing my sport anymore," "I still love what I am doing every day. My passion has never been burned out," and "Made me more motivated today to play because we didn't get a lot of opportunities." Lastly, the *unfair effect on me* theme is where most of the "I" statements were seen. This theme showed the researchers how some athletes felt very personally

affected by the pandemic and strict protocols and felt like the situations they were put into were very unfair. An example quote representing this theme is, “Had to sit out for four weeks now even though I didn’t have it [Covid-19].”

**Effect on social relationships.** The lower order themes comprising this higher-order theme were *less bonding time, weakened relationships with coaches and teammates, no change in relationships, and more support and connections*. These themes emerged from statements that mentioned direct changes, or no changes, on how the team interacted with each other and bonded. These themes showed the researchers the different ways the pandemic affected the closeness of sports teams and how they were able to bond. Example answers are: “Hasn’t allowed me to spend as much time and bond with my team like I would like to,” “It’s hard to get to know people as well because you must distance and you can’t really hang out after practices,” “The relationship between the coaches and the teammates on my team have been about the same,” and “We are all in the same situation which we have used to build off of.” In a lot of cases, the bond between the players, and coaches, was either made stronger or weakened because of the pandemic. The bonds seemed to be weakened because there were less chances to bond due to Covid-19 protocols that made bonding more difficult.

**Effect on daily and sport schedule.** The lower order themes that make up this higher order theme are *irregular/cancelled competition schedule; increased academic priority; Covid testing, quarantine, and mask-wearing; fewer, slower, smaller practices; and no change on season*. These themes emerged from athlete responses that mentioned how their regular sport and school schedule was affected, or not affected, by Covid-19. The *irregular/cancelled competition schedule* and *fewer, slower, smaller practices*

themes encompassed answers that describe how the sports season was drastically changed due to the pandemic and specific Covid-19 protocols. Example responses for these themes are, “It has made my season drastically different and much shorter,” and “Limiting the amount of time we can practice, when we can practice, and when our games are.” The *Covid testing, quarantine, and masking-wearing* themes showed the researchers how certain protocols disturbed the daily/weekly schedule of athletes, and how this disturbance affected the athlete personally. Some example answers are, “Have to follow some regulations to ensure that we limit our exposure to contracting Covid,” “We wear masks at almost all times,” and “Test 3 times a week.” Finally, the *increased academic priority* theme showed how moving to online classes increased the stress and load that individuals felt and in turn affected their sport participation as well. An example response for this theme is, “Due to heavy academic load, I had to take time off from participating in my sport.” All data units and lower order themes within each higher order theme can be found in Tables 12-14.

Table 12.

*Data Units and Lower Order Themes within the “Effect on Mental State” Higher Order Theme*

Lower Order Theme & Data Units
<b>Felt anxious or depressed</b>
More on edge Depressed Very frustrating Adds huge amount of unnecessary stress Kinda put me in a dark place for awhile Tough situation As a captain...been very stressful trying to problem solve conflicts within the team while not even being on campus Mentally it had taken a toll on me Things are always changing which makes me anxious I feel more on edge. I feel as if my health isn't important

Table 12. Continued

<b>Hard to stay motivated</b>
<p>Harder to stay motivated and keep having fun</p> <p>Harder to stay motivated</p> <p>I haven't wanted to practice for fear of not having a season</p> <p>I didn't want to continue playing on the team</p> <p>Motivation has declined</p> <p>Hard to stay motivated</p> <p>Hard to stay focused and keep up with the fitness part</p> <p>Working out and training seems pointless</p> <p>Wasn't worth playing anymore</p> <p>Less motivated</p> <p>Lost energy</p> <p>Kinda gave up for awhile</p> <p>Don't know why we try so hard in practice</p> <p>Made it hard with all the restrictions</p> <p>Made me rethink</p> <p>Had to remotivate myself as an athlete</p> <p>Difficult to keep up my motivation</p> <p>A lot [motivation affected]</p> <p>Lost motivation</p> <p>It's brought [motivation] down to an all-time low</p> <p>Made me a little less motivated</p> <p>Made me less motivated</p> <p>Sometimes to not want to go train or knowing we have to get tested to participate</p> <p>My motivation was really low during my first season in college</p> <p>Diminished my motivation by making me think there is no point in playing my sport anymore</p> <p>Has made it hard to stay motivated throughout the season because the competitions have been shorter</p> <p>Motivation has taken a hit</p> <p>It's harder to get into the gym and get better</p> <p>I feel less motivated to train and to play</p> <p>Made me feel as if all the work I am doing is in vain</p> <p>Put a hold on [motivation]</p>

Table 12. Continued

<b>More internal drive</b>
<p>More self-motivated</p> <p>Having less structure from my sport has showed me that if I want to see progress I have to do it myself</p> <p>Increased [motivation]</p> <p>Rarity to go out and play, so more motivating when you actually get to go out</p> <p>Have been able to keep myself going</p> <p>More motivated</p> <p>Made me want to try harder</p> <p>Motivation has increased</p> <p>Work hard</p> <p>Want to make the most of the time I have left</p> <p>Treat every race like it is my last</p> <p>It has actually given me more time to train</p> <p>Helps me keep that motivation going for when Covid is over</p> <p>Become more motivated to play</p> <p>Increased my motivation</p> <p>Made me more motivated today to play because we didn't get a lot of opportunities</p> <p>I am very motivated</p> <p>Now it is higher because I am seeing my improvement</p> <p>Play every game like it's your last</p> <p>Gave me more motivation to work harder</p> <p>Slowly began to return back</p> <p>It has affected me sometimes to not want to go train or knowing we have to get tested to participate. But I would go through these procedures for wrestling</p> <p>Has increased training time and the feeling that I have something else that could potentially grow into a better athlete</p>
<b>No effect on motivation</b>
<p>It didn't [affect motivation]</p> <p>It hasn't [affected motivation]</p> <p>Didn't really affect my motivation...more my attitude</p> <p>Still very motivated</p> <p>NO [didn't affect motivation]</p> <p>Not much [effect on motivation]</p> <p>I still love what I am doing every day. My passion has never been burned out.</p> <p>It has not really affected my motivation in my sport</p> <p>Hasn't changed [motivation] much, if any</p> <p>My motivation has not been affected by Covid-19</p> <p>I am just as motivated if not more</p> <p>It hasn't [affected motivation]</p> <p>My motivation has not been affected</p>

Table 12. Continued

<b>Unfair effect on me</b>
<p>Unnecessary quarantines are making me lose valuable time  I was one of the only people who never tested positive, so seeing irresponsibility from not only my teammates but other sports as well was very frustrating  Had to sit out for four weeks now even though I didn't have it [Covid-19]  Ruined my first semester for playing  Took away my senior season  Could just be at home instead of miles away in a dorm  Felt too much time was expected of us to spend on my sport rather than my academics, I felt more like an athlete-student than a student-athlete  My senior year of tennis was taken away from me in high school  I got Covid during our fall season and couldn't play for 2 weeks and when I got back I felt like everyone had moved on without me and left me to figure it out on my own  I used the extra time spent at home to train and try to get back to my pre-injury fitness level...being home was actually very good for me...I have not been able to make much progress at all while training on campus since then</p>

Table 13.

*Data Units and Lower Order Themes within the “Effect on Social Relationships” Higher Order Theme*

<b>Lower Order Theme &amp; Data Units</b>
<p><b>Less bonding time</b></p> <p>Team bonding...very limited  Less time for chemistry and bonding  I don't get to spend as much time with my team  Less opportunities to bond  Constant feeling of needing to be away from teammates and coaches  Losing time together  Separated from my teammates  Disrupted our times together as a team  Many freshmen went home  Haven't been able to do anything as a team  We're not able to all get together and bond as a team like last year  Not being able to do stuff with the older guys when I first got here was rough...had to try much harder to build relationships  Hasn't allowed me to spend as much time and bond with my team like I would like to  Harder to see my coaches and teammates  I don't want to spend as much time with [coaches and teammates]  Hard to meet one to one and face to face  Not been able to be together as much  Harder to get close with [coaches and teammates]  Caused us not to see each other as much  Didn't get to see my teammates very much at all during the off season</p>

Table 13. Continued

<b>Weakened relationships with coaches and teammates</b>
<p>Team hasn't done a ton of bonding  Not as social  Not being able to do stuff with the older guys when I first got here was rough...had to try much harder to build relationships  Team dynamic felt very divided  Harder to get a team dynamic going  Isolated  Made it harder to be close with some teammates  Haven't been able to communicate with [coaches and teammates]  Prevented upperclassmen to get to know the freshman  Coaches aren't as understanding as they portray to be  My relationships have changed negatively  Weren't able to get to know each other  Not able to build as strong of a relationship with teammates  Affected my relationships with teammates  Lack of respect towards other people  Felt like we were strangers for a bit  Get easily frustrated with each other  I have gotten to see my teammates...not the same as playing with them  Not the same as in person contact  Haven't really had a good opportunity to get to know some of the other guys  Been more difficult than usual to keep relationships with teammates and coaches  Had a foot in the way of how close we could get  Lack of practices are weakening the bonds  The multiple lockdowns and shutdowns on our program have been rough [on relationships]  [Affected] How we interact  Kept me from being able to develop much of a relationship with my coach  Harder to make relationships with [coaches and teammates] outside of the sport  Weaker [relationships] towards the younger guys  Never really got the opportunity to meet many of the players on the team  Harder to build relationships with guys  Brought more tension  It doesn't allow me to see them and interact with them like I would like to  It's hard to get to know people as well because you must distance and you can't really hang out after practices  We aren't as close as recent years and we don't know each other as well</p>



Table 13. Continued

<b>More support and connections</b>
<p>If anything brought us closer  The team was more open  [Players] who have stayed on campus, we have gotten much closer  Coaches seem to reach out more  Everyone is trying more  Stronger relationships  Made good connection even with restrictions  Teammates and coaches have been very supportive and positive  Strengthened my relationships  We will always be there for each other  Improved [relationships]  Made us closer  Having to build the team around being masked up and having to trust the guys outside of practice  Respecting each other's boundaries  It made us closer  Gotten closer because we are all going through the same thing  Stronger with the older guys.  It's made us closer  We are all in the same situation which we have used to build off of  Made us closer  I have gotten closer to my coaches and teammates because we are all in this together.  Made [relationships] stronger as we talk more about things outside of baseball more</p>
<b>No change in relationships</b>
<p>It didn't [affect relationships]  Not really [affected relationships]  Been neutral [effect on relationships]  But I feel my relationships are just as strong as always  None [effects on relationships]  No hasn't affected our relationships  Not much [effect on relationships]  Not at all, it has been the same  It hasn't affected our relationship, everyone is still close  It has not really affected my relationships with my coaches or teammates  Covid 19 hasn't affected the relationships between my coaches or my teammates  Didn't really have a relationship with them to begin with so it hasn't really  It hasn't [affected relationships]  The relationships between the coaches and the teammates on my team have been about the same  My relationships have not been affected  It hasn't affected my relationship at all</p>

Table 14.

*Data Units and Lower Order Themes within the “Effect on Daily and Sport Schedule”*

*Higher Order Theme*

Lower Order Theme & Data Units
<b>Irregular/cancelled competition schedule</b>
<p>Constantly making changes to our schedule</p> <p>Didn't know if we were going to get a season at all</p> <p>Aren't guaranteed any game</p> <p>Constantly wanting to play my sport and I am hoping to play this spring</p> <p>Longer stretches of time between seasons</p> <p>A lot of “what ifs”</p> <p>Limited chances to compete</p> <p>Postponed our season</p> <p>Moved the season</p> <p>Weren't able to have a fall or spring season</p> <p>Season was switched to the spring</p> <p>[Season] got moved to spring</p> <p>Took away freshman college fall season</p> <p>Move season</p> <p>Season got cancelled</p> <p>Shortened our season</p> <p>Freshman college season was also cancelled</p> <p>Haven't been able to play any games</p> <p>Less opportunities to compete and practice</p> <p>Cancelled our outdoor season</p> <p>We had a short fall season</p> <p>We didn't get to come train in the summer before the season so everyone got hurt.</p> <p>[Covid] has cause lack of participation in many events and tampered with our eligibility</p> <p>Having some uncertainty about meets</p> <p>[Covid] has made it difficult to get a consistent schedule, which makes it hard to stay on track with it</p> <p>The season being cancelled last year really sucked</p> <p>[Covid has affected] Who we play with and where we can go after our round.</p> <p>Season got pushed</p> <p>Didn't get to play last season</p> <p>We will not have a spring trip to Arizona like we do most years</p> <p>It has made my season drastically different and much shorter</p> <p>We can't go to tournaments</p> <p>National tournament just got canceled</p> <p>Only having 4 weeks of competition then to have a whole season</p> <p>Plus having D3 nationals cancelled due to Covid</p> <p>Cut seasons short</p> <p>Less matches</p> <p>Way less competitions</p> <p>NCAA division III was cancelled</p> <p>No national tournament because of the lower participation rate</p> <p>[Covid] cancelled our season last year</p> <p>Less travel</p> <p>The whole season was canceled last year</p>

Table 14. Continued

<p>There is less competition  A shortened season  Cancellation/delay of tournaments  [Covid] placed a hold on my season and stopped our eligibility  Schedules are never set in stone  Made it difficult to find other teams to play  Taken away the ability for sports teams to freely practice together</p>
<b>Increased academic priority</b>
<p>My motivation for my sport has gone down as my academic pressure had increased  Due to heavy academic load, I had to take time off from participating in my sport  Sports have become less of a priority to students</p>
<b>Covid testing, quarantine, and mask-wearing</b>
<p>Test 3 times a week  Majority of our team couldn't practice...two weeks of preseason as they all had to quarantine  Occasional testing  Been quarantined twice  Masks constantly  Regular testing  We wear masks at almost all times  Less enjoyable by wearing a mask  Many restrictions this year regarding travel and testing  Having to build the team around being masked up  Have to follow some regulations to ensure that we limit our exposure to contracting COVID  Weekly COVID-19 testing</p>
<b>Fewer, slower, smaller practices</b>
<p>Majority of our team couldn't practice  Haven't been able to practice to my full potential  Limiting my ability to play  Affect our practice and some abilities to practice as a full team  Had to practice in smaller groups  Different trainings and travel  Practices got cancelled because people getting the virus  Slows down training and group activities  Slowed things down and made it more difficult to practice as a team  Limiting the amount of time we can practice, when we can practice, and when our games are  Practices were with less people  Were only allowed to practice in small groups  Not been able to use the gym  Hard to get workouts in because of restrictions so I feel limited sometimes  Made training outside the sport harder  Having to be extra careful at practice  When and where we practice  We have to practice/play different  The sport is very physical and there are many people that are held back now because of the Covid guidelines</p>
<b>No change on season</b>
<p>We had a season so it was good  Not at all we still have gotten to play our season, thankfully  Everything is back to normal at least for the time being</p>

#### IV. DISCUSSION

The purpose of this study was to examine relationships among social contextual factors (organizational stressors, peer leadership, CDRs with teammates), psychological need satisfaction (perceived competence, autonomy, relatedness), and burnout in collegiate athletes. A secondary purpose was to also explore group differences on burnout by gender. In the following paragraphs, key results, theoretical and practical implications, and how the quantitative and qualitative data relate to each other are discussed.

Based on theory and related research, it was hypothesized that perceptions of peer leadership and CDRs with teammates will be positively associated with psychological need satisfaction, and that peer leadership, CDRs with teammates, and psychological need satisfaction will be negatively associated with burnout. It was also hypothesized that organizational stressors will be negatively associated with psychological need satisfaction and positively associated with burnout. Based on related research, females were expected to show higher burnout levels than males. Results from regression analyses and a *t*-test show that these hypotheses were partially supported. First, regarding social contextual factors and psychological needs satisfaction, cross domain relationships with teammates was a significant predictor of psychological needs satisfaction. This means that when athletes felt like their teammates knew and cared about their lives outside of sport, they reported higher levels of feeling skilled at their sport, willingly participating in their sport, and felt closer to the individuals on their team. Although the other contextual factors showed moderate and moderately high correlations with psychological needs satisfaction, CDRs with teammates was the only significant predictor when they were all in the regression analysis together. This could be because when athletes feel like they

have stronger bonds with the individuals they play with they find the sport more enjoyable and are more motivated to continue participation (Stuntz, 2010).

These results echoed those of previous research studies. Stuntz & Boreyko (2018) conducted a study on whether differential treatment that individual athletes perceive predicted psychological need satisfaction. They gave 249 collegiate athletes surveys that assessed coach treatment to them and to other individuals on the team regarding technical skill instruction, how well coaches know about athletes' lives outside of sport, and negative rapport as well as assessing perceived competence, autonomy, and relatedness. The results showed that the athletes who believed their coach knew and cared about their lives outside of sport, more so than the coach did for others on the team, perceived greater competence and relatedness. While Stuntz & Boreyko (2018) examined cross domain relationships with coaches instead of teammates, it does show the important role cross domain relationships play on psychological needs satisfaction and helps to reinforce the results of our study.

The present findings show that all three psychological needs satisfaction subscales (autonomy, competence, and relatedness) were significant predictors of burnout. This means that when athletes reported higher levels of perceived competence, autonomy, and relatedness they reported lower levels of emotional and physical exhaustion, sport devaluation, and higher levels of athletic accomplishment. Kent, Kingston, and Paradis (2018) conducted a study that explored whether the relationship between passion and athlete burnout was mediated by psychological need satisfaction. All 120 of their participants completed the Passion Scale, Basic Psychological Needs in Sport Scale, and the Athlete Burnout Questionnaire. Regression analyses showed that the psychological

need of autonomy was a significant mediating variable in the relationship between passion and burnout. The present study supports results found in previous related research on burnout and psychological need satisfaction (Deci & Ryan, 1985; Amorose et al., 2009; Hodge et al., 2008; Lemyre et al., 2006; Perreault et al., 2007), as when participants reported higher levels of competence, autonomy, and relatedness, they reported lower levels of burnout.

One of the four regression analysis looked at social contextual factors and burnout. Cross domain relationships with teammates, informal peer leadership, formal peer leadership, and organizational stressors were the predictor variables and burnout was the criterion variable. The results of this regression analysis showed that organizational stressors and cross domain relationships with teammates were significant predictors of burnout. In the previous regression analysis, organizational stressor subscales were grouped together to form one organizational stress score. These results mirror those found in several other organizational fit/stress research. Hanton, Feltcher, and Coughlan (2005) conducted interviews with ten international elite athletes. Results showed the athletes experienced stress associated with the sport organization, and the higher the stress level the higher the burnout level. Other qualitative research with older elite athletes have found that situational and organizational factors (e.g. work/school demands, logistical concerns, and a lack of social support) also influence athlete burnout levels (Gustafsson et al., 2008). The results of the present study and results of past studies show us that when athletes experience higher organizational stress they also report feeling more burnout and disengaged from their sport.

In addition to organizational stress, cross domain relationships with teammates was found to be a significant predictor of burnout. When athletes felt like their teammates knew and cared about their life outside of sport, they reported lower levels of burnout. Previous studies that have explored teammates interactions and relationships have shown several other teammate constructs that are related to burnout levels, such as social cohesion and social support (Pacewicz et al., 2019; Pacewicz et al., 2020). Pacewicz et al. in 2019 conducted a meta-analysis that showed social support from teammates helped reduce emotional and physical exhaustion and perceptions of reduced accomplishment. These collective results show the importance of athletes having a relationship with their teammates outside of sport. The present study extends past research by showing that organizational stress and relationships with teammates together are important in predicting burnout.

When the organizational stress subscales were tested as predictors of burnout, only the coach subscale was significant. Athletes who perceived greater stress due to their relationship with their coach reported greater burnout. Several previous studies have highlighted the importance of the coach-athlete relationship and how it can influence athletes' burnout levels. Vealey et al. (1998) explored how athletes' perceptions of their coach's behavior and communication style influenced burnout and anxiety levels. They used the Eades Athletic burnout inventory to measure six different components of burnout in athletes. The results of their study showed that perceived coaching style/behavior was a predictor of athlete burnout. Vealey's study helped to support past research that reported a main cause of burnout for college athletes as being severe practice conditions (Raglin & Morgan 1989; Silva, 1990). The perceived coach behaviors

found in Vealey's study (e.g., autocratic style, use of dispraise, emphasis on winning over the development of athletes, and lack of empathy and communication ability) would not only be contributing factors of an athlete's perception of severe practice conditions, but could also contribute to a perceived lack of control, which has been found as another important precursor for athlete burnout (Coakley, 1992). Our study, and the previous study, show that the coach plays a critical role in creating a certain climate for their athletes, which can either help them avoid burnout or can contribute to the development of stress and burnout. The Covid-19 pandemic also brought unique and stressful situations that the athletes and coaches were not used to dealing with. This could have caused increased stress on the coach which led to them unintentionally creating a more stressful environment for their athletes.

The results of the independent samples *t*-test showed that there was not a statistically significant difference between the two genders, however, females did show a slightly higher average burnout score. This trend tells us that there is a possibility that female athletes can experience higher burnout levels. To see this difference more clearly, a study with more participants is needed. The sample size in the present study allowed enough power to detect a large effect, so it is possible that there was a smaller effect that could not be detected.

The open-ended questions about the Covid-19 pandemic provided us with information on how individuals respond to stress. Over the last year there has been an overwhelming rise in negative thoughts, comments, and consequences around the pandemic. For example, several news and journalism companies report high death tolls and unemployment due to the pandemic. Time Magazine reported that in the year 2020,



Covid-19 became the third most-common cause of death in the United States (Ducharme, 2021). Due to this, it was interesting to see that not all the answers to the open-ended questions were negative. Some athletes reported that the pandemic made their bonds stronger with their teammates and coaches and increased the motivation to work hard in their sport. These results can be attributed to individuals experiencing the same hardships and bonding through those. Additionally, the athletes did not know how many opportunities they would get to play their sport in the future, so it made them want to make the most of the times they did get to practice and compete. For example, when asked how the pandemic affected the athlete's relationship with their teammates and coaches, one athlete answered by saying, "Made them stronger as we talk more about things outside of baseball."

There were also negative themes that emerged in the open-ended answers. Athletes reported losing the sense of purpose and saying "what is the point" when they thought of playing their sport. They also reported a significant amount of added stress and depression because of the pandemic. The reason for some individuals thriving while others struggled comes down to individual difference; some individuals handle stress and change better than others. Some individuals have a "glass half empty" mindset while others have a "glass half full" mindset. Another interesting finding that was presented in the open-ended answers is that some individuals' stress response depended on where they were located. For example, one athlete answered:

Whenever we were first sent home from school due to Covid-19, I used the extra time spent at home to train and try to get back to my pre-injury fitness level.

Being able to be at home was actually very good for me, and I made so much

progress that I was almost completely back to my previous fitness level. Right before I came back to campus in the fall I had a relapse in my injury, and I have not been able to make much progress at all while training on campus since then, when they were asked how Covid-19 affected their motivation for their sport. This showed that sometimes it is not the stressor that is the important factor, but more that it is the environment in which the individual is dealing with that stressor.

The addition of the open-ended questions to the survey proved to be helpful in giving context to the quantitative results. As mentioned above, organizational stress was a significant predictor of burnout. In the open-ended responses, it was typical that when individuals said Covid-19 influenced their practice and competition schedule negatively, they also described feeling less motivated to play and excel in their sport. Athletes also reported feeling stressed about being exposed to Covid-19 and/or following all the protocols, and those same individuals reported feeling less motivated in their sport. This shows that when individuals felt stress that was associated with their environment (organization), they wanted to participate in their sport less. On top of this, cross domain relationships with teammates as a significant predictor of burnout was another quantitative result that was reflected in the open-ended answers. Some athletes reported feeling more distant with their teammates because of the pandemic and in turn said that they were less motivated. This helps to solidify the result that when athletes have a decrease in cross domain relationships with their teammates, they can also have higher levels of burnout.

## **Theoretical Implications**

Self-determination theory states that people have three basic psychological needs (autonomy, competence, and relatedness) that are influenced by the social context, and these needs influence an individual's self-determined motivation and well-being. The support of this theory can be heavily seen in the results that deal with psychological needs satisfaction. When individuals reported higher levels of perceived competence, autonomy, and relatedness they reported lower levels of burnout and organizational stress. This suggests that when those three basic psychological needs are met, individuals feel more motivated to compete and succeed in their sport. Hodge et al. (2008) and Amorose et al. (2009) examined how basic needs fulfillment influenced burnout levels in elite athletes. The results of these studies showed that when individuals' basic needs were not fulfilled, they reported higher levels of burnout and lower self-esteem.

## **Practical Implications**

The current results suggest that there are several social contextual factors that can influence the burnout levels of athletes. Translating the research results into evidence-based best practices emphasizes the need for coaches to take an intersectionality approach when managing/dealing with the stress of their athletes. It would be beneficial for coaches to take into consideration all sections of sport to fully understand the stress response of their athletes and in turn develop strategies to help deal with these stress responses. For example, it would be important for coaches to consider sport stress, life stress, teammate relationships, their relationship with the team, and academic stress, as individual sections. It is important for coaches to make time for the team to get to know each other outside of their sport. Time should be set aside for the team to bond and understand the lives of each

other that does not encompass their sport. It is also important for coaches to pay attention to situational factors that could affect their athletes. For example, changes in competition schedules or venues can prove to be a stressful change for athletes. The coach must make sure they provide the athletes with effective coping skills and provide reassurance to the athletes to help minimize the negative stress responses. Mindfulness meditation is one coping technique that has been found to reduce anxiety and depression symptoms. Peterson et al. (1992) reported that individuals who participated in a group stress reduction program based on mindfulness meditation showed significant reductions in anxiety and depression scores and reductions in panic symptoms. If coaches implement strategies like this into their program, they will most likely see reductions in the anxiety and stress of their athletes.

### **Limitations**

I note several limitations of the present study. First, all constructs were measured through self-report, which means responses may be subject to social desirability. Athletes may have been hesitant to share negative experiences they have had in their sport, and with their coaches and teammates. Second, the sample size was small for quantitative survey data. Through the power analysis, the number of participants was sufficient to find a large effect, but it would be ideal to have a higher number of participants to potentially uncover smaller effects. Third, the study was conducted completely online and there was not direct or in-depth communication with the athletes themselves. This could be a limitation because we were unable to introduce ourselves and explain the importance of the study, so we lost some of the personal aspect that could have helped with response rates.

## **Conclusion**

This study extended previous research by examining multiple factors that relate to an athlete's burnout level. It also helped open the door for more studies on organizational fit in the sports world. The results highlighted the important role social contextual factors play on burnout and psychological needs satisfaction. When athletes reported higher levels of autonomy, competence, relatedness, and cross domain relationships with teammates, they reported lower burnout levels. Also, athletes who reported lower organizational stress, more specifically stress associated with coaching, reported lower burnout levels. Thus, it is important for coaches to provide athletes with positive stress coping skills and provide opportunities for athletes to know their teammates outside of the sport. Future research on this topic not only needs to continue to examine the cognitive influencers of burnout, but also the social contextual factors that influence burnout. Not only is it important for athletes to have proper stress coping skills, but it is also important for them to have the social support from their coaches and teammates to create an environment that encourages positive athletic development instead of an environment that causes higher stress and burnout levels.

## APPENDIX SECTION

### APPENDIX A: Consent form



You are invited to participate in a research study being conducted by Dana Mefferd, a graduate student at Texas State University. The study is about how your relationships with coaches and teammates are associated with motivational factors such as confidence and burnout in sport. If you want to participate in the study, you'll complete a survey. We hope to gain knowledge about why burnout may occur in some athletes. You are being asked to complete this survey because you are a collegiate athlete.

Participation is voluntary. The survey will take approximately 20 minutes to complete. You must be at least 18 years old to take this survey.

This study involves no foreseeable serious risks. We ask that you try to answer all questions; however, if there are any items that make you uncomfortable or that you would prefer to skip, please leave the answer blank. Your responses are anonymous and confidential.

You will not get any personal benefit from taking part in this study. The information you provide, however, may help improve athletes' sport experiences in the future.

Reasonable efforts will be made to keep the personal information in your research record private and confidential. No identifiable information will be connected to your survey answers. statement participation in this research is separate from the team and there are no

negative consequences if you choose not to participate. The members of the research team and the Texas State University Office of Research Compliance (ORC) may access the data. The ORC monitors research studies to protect the rights and welfare of research participants.

If you do experience any psychological discomfort as a result of this study you can seek help from the your university's counseling services. Their number is 512-245-2208.

Your name will not be used in any written reports or publications which result from this research. The results will be reported as a larger group; individual teams or athletes will not be singled out. Data will be kept for three years (per federal regulations) after the study is completed and then destroyed.

You will receive no compensation for this survey.

If you have any questions or concerns, feel free to contact Dana Mefferd or her faculty advisor:

Dana Mefferd, graduate student  
Health and Human Performance  
402-850-4923  
d1m338@txstate.edu

Dr. Lindsay Kipp, Assistant Professor  
Health and Human Performance  
512-245-1971  
lindsaykipp@txstate.edu

The project, IRB #7331, was approved by the Texas State IRB on September 21, 2020. Questions or concerns about the research, research participant rights, and/or research-related injuries to participants should be directed to the IRB chair, Dr. Denise Gobert 512-716-2652 – (dgobert@txstate.edu) or to Monica Gonzales, IRB Regulatory Manager 512-245-2334 - (meg201@txstate.edu).

If you would prefer not to participate, please do not fill out a survey.

If you consent to participate, please complete this survey, please click "I consent" and click the arrow to start the survey.

I consent





## APPENDIX B: Survey

**Think about the captain of your sports team and write their initials here to remind you to think of him or her while responding to the following.**

**Read the following descriptors and rate how much each one describes your captain.**

	Never like him/her	Usually not like him/her	Sometimes like him/her	Occasionally like him/her	Often like him/her	Usually like him/her	Always like him/her
Determined	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Positive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Motivated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consistent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organized	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responsible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skilled	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Confident	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Honest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leader	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Sports teams often have formal and informal leaders. These questions are about your peer leaders on your team.**

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**Think about another teammate on your sports team who you consider a leader. Write their initials here to remind you to think of him or her while responding to the following.**

---

**Read the following descriptors and rate how much each one describes this teammate.**

	Never like him/her	Usually not like him/her	Sometimes like him/her	Occasionally like him/her	Often like him/her	Usually like him/her	Always like him/her
Determined	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Positive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Motivated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consistent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organized	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responsible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skilled	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Confident	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Honest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leader	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Athletes may experience stress due to many factors related to their sport. In the past month, how often have you experienced pressure associated with...**

	Never	Almost never	Sometimes	Almost always	Always
The spectators that watch me perform	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The technology used in my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The atmosphere surrounding my team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The relationship between my coach and I	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How my team is selected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traveling to or from training or competitions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My teammates' attitudes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My coach's personality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Selection of my team for competition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Injuries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The organization of the competitions that I perform in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The responsibilities that I have on my team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The food I eat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The training or competition venue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The shared beliefs of my teammates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The development of my sporting career	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The accommodation used for training or competition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My training schedule	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What gets said or written about me in the media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The regulations in my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The funding allocations in my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The organization that governs and controls my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Think about your relationship with your teammates when answering the following questions.**

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
In general, my teammates know how well I do in school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, my teammates care about aspects of my life outside of sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, my teammates know about my whole life, not just about what happens in sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable approaching my teammates about issues outside of sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, my teammates are supportive of my non-sport interests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, my teammates help me achieve my goals outside of sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Think about your feelings and experiences in your sport when answering the following questions.**

	1 Not true at all	2	3	4 Neutral	5	6	7 Very true
I can overcome challenges in my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my sport, I get opportunities to make choices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my sport, I feel I am pursuing goals that are my own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel I participate in my sport willingly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my sport, I feel close to other people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am skilled at my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my sport, I really have a sense of wanting to be there	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my sport, I feel that I am being forced to do things that I don't want to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I show concern for others in my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel I am good at my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my sport, I can take part in the decision-making process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my sport, I feel I am doing what I want to be doing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I choose to participate in my sport according to my own free will	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are people in my sport who care about me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get opportunities to feel that I am good at my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my sport, I get opportunities to make decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my sport, there are people who I can trust	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have the ability to perform well in my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have close relationships with people in my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my sport, I have a say in how things are done	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Athletes may experience differences in their energy levels, performance, and thoughts about their sport. Read each statement and rate how often you experience each of the following.**

	Almost never	Rarely	Sometimes	Frequently	Almost always
The effort I spend in my sport would be better spent doing other things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am accomplishing many worthwhile things in my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel so tired from my training that I have trouble finding energy to do other things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't care as much about my sport performance as I used to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't feel confident about my athletic ability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel overly tired from my sport participation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm not into my sport like I used to be	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



I am not performing up to my ability in my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel "wiped out" from my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel less concerned about being successful in my sport that I used to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It seems that no matter what I do, I don't perform as well as I should	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel physically worn out from my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wonder if my sport is worth all the time and energy I put into it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel successful at my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel like I don't have any energy from my sport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Tell us a little about yourself...**

---

I am

Male

Female

---

How old are you?

---

How would you describe your race or ethnicity (choose all that apply)

Black or African American

Native American Indian

White

Asian

Hispanic or Latino

Other

---

If you selected other, please give further explanation

---

What sport do you play?

---

My school is designated as NCAA (choose one)

Divison 1

Divison 2

Divison 3

---

How many hours per week do you spend training for your sport?

---

How many years have you been involved in your sport?

---

How many seasons have you been with your current coach?

---

Current playing status on your team (choose one)

Starter

Non-starter

Current academic year (choose one)

Freshman

Sophomore

Junior

Senior

Fifth year senior

Graduate

**The final questions on this survey are 3 open-ended questions. Please type your responses in as much detail as you would like. This will help us better understand the unique situation this semester.**

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How has COVID-19 affected your sport?

How has COVID-19 affected your motivation for your sport?

How has COVID-19 affected your relationships with your coaches and/or teammates?

**Thank you for taking the time to complete this survey. Please go back and make sure you answered all of the questions.**



*The rising STAR of Texas*

We thank you for your time spent taking this survey.  
Your response has been recorded.

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