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Effects of Coaching on College Athletes' Psychological Well-Being In vs. Out of Season

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The Effects of Coaching on College Athletes' Psychological Well-Being In vs. Out of Season

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Abstract

In recent years, there has been a crisis in college athlete mental health that has resulted in an alarming number of suicides. Such tragedies have sparked conversations across the nation about the special mental health challenges student athletes face and how their coaches may affect these challenges. In other words, how much of an impact might coaches have on athletes' mental health? The current research explored this question by investigating the role coaches have on athletes' psychological well-being, while athletes are in season as well as out of season. Student athletes at a small, Southeastern liberal arts university were asked to complete an adapted version of the Satisfaction with Life Scale (Diener et. al, 1985) and two versions of the Interpersonal Behaviors Questionnaire (Rocchi et. al, 2016), one for in season and one for out of season. The sample consisted of 63 out of 342 (18.42%) of student athletes on campus. Results indicated that athletes who described their coaches as being supportive of their basic psychological needs had relatively higher levels of well-being, and athletes that described their coaches as being thwarting had relatively lower levels of well-being. Results also significantly predicted that thwarting coaching behaviors were more likely to occur in season as opposed to out of season; however, there was no interaction effect on athletes' overall well-being. No significant differences were found with supportive coaching behaviors in and out of season. Therefore, athletes perceived their coaches equally as supportive in and out of season.

The Effects of Coaching on Athletes' Psychological Well-Being In vs. Out of Season

Given the pressures and crises inherent in living in the twenty-first century, it is no surprise that a large number of people are struggling with mental health issues. In fact, in 2020 it was estimated that 52.9 million Americans, or one in five U.S. adults, struggled with some form of mental illness (NIMH, 2022). Many people who suffer from mental illness manage symptoms with different forms of therapy, medication, healthy eating, dieting, or exercise and sports. Research has shown that the benefits of exercise can include boosting mood and improving overall mental health, as well as increasing endorphins and enkephalins, which are two of the body's naturally produced hormones that make us feel better (McMillan, 2022). However, moving our bodies or playing sports does not make a person immune to mental health issues. Things such as pressure to perform, poor coaching, game anxiety, busy schedules, and more can make it very easy for an athlete to quickly become overwhelmed. On top of all the struggles that come with dealing with their sport, each athlete who is also a student must deal with school-related demands such as coursework, deadlines, exams, and studying.

According to one source, on average, about 33% of all college students experience symptoms of depression, anxiety, or other mental health conditions (McMillian, 2022). Among this group, it is estimated that about 30% seek help. However, among college athletes dealing with mental health conditions, only 10% tend to seek help (Velasco, 2017). According to a 2015 meta-analysis, it was hypothesized that because athletes tend to deal with more stress than nonathletes, they would report higher levels of alcohol use, depression symptoms, and social anxiety than nonathletes (Wolanin et. al, 2015). The results of the meta-analysis showed partial support for this hypothesis, as female athletes seemed especially at risk. In fact, female athletes reported experiencing depression symptoms, social anxiety, and nonsupport to a greater extent

than male athletes as well as male and female nonathletes (Wolanin et. al, 2015). Interestingly, the meta-analysis also reported that out of a group of 61 Division 1 male baseball players and 51 male nonathletes, male athletes reported fewer depressive symptoms than nonathletes (Wolanin et. al, 2015). Other studies included in the meta-analysis had similar findings, and these findings are consistent with data from the general population that continues to show that women report higher rates of depression than men (Albert, 2015). It can also be said that the additional pressures athletes face may contribute to lower levels of overall well-being (Simmons & Bird, 2022). Well-being is essentially the state of being happy and comfortable in one's own life (discussed in more detail later). So, if added pressures are contributing to lower levels of well-being in athletes, then the athletes are more likely to be unhappy or uncomfortable. With this, it can be assumed that lower levels of well-being, or prolonged unhappiness, may increase depressive symptoms.

With the number of student athletes reaching out for mental health help being so low, it's likely that athlete mental health is not routinely discussed on college campuses among coaches and/or faculty. For this reason, athletes may assume that campus resources are limited and that they are alone with their problems. However, with recent student athlete suicides, the talk of athlete mental health is on the rise. In spring 2022 alone, at least five college athletes committed suicide, which sparked major concerns that schools were not doing enough to support the mental health needs of their student athletes (Kurz & Hunzinger, 2022). Tim Miller, vice president of student affairs at James Madison University, spoke out after sophomore softball player Lauren Bernett took her life saying, "What we have seen is over the last decade… (is a) significant increase in mental health concerns, lots more students coming to college with mental health concerns. And what we saw really in the last two and a half, three years of the pandemic is

exponential increase. So, if you imagine it as a graph, it has gone uphill very quickly," (Kurz & Hunzinger, 2022, para. 9). Due to the increase of adolescents and young adults struggling with mental health issues, the overall suicide rate among those in this demographic group has been on the rise. Indeed, data show that adolescents and young adults have become increasingly vulnerable to suicide risk in recent years. According to federal data from the CDC, suicide rates in the U.S. among those aged 15-24 years rose from 4,600 per year in 2010 to 6,062 in 2020 (Garnett et. al, 2022), and according to a 2015 study, 35 NCAA athletes took their lives in a nine-year period (2003-2012) (Rao et. al, 2015).

While student athletes should attempt to stay on top of their own mental health, outside help is often a necessary component of recovery. Every school has a responsibility to support the mental health needs of their student athletes. According to the NCAA constitution, "each member school is charged with facilitating an environment that reinforces physical and mental health within athletics by ensuring access to appropriate resources and open engagement with respect to physical and mental health," (Johnson, 2022, para. 6). Interestingly, survey results show that 69% of women's sport participants and 63% of men's sports participants all know where to go to receive help/support for their mental health concerns; however, when asked if they would feel comfortable seeking help/support from a mental health provider on campus, less than half of both men's and women's sports participants answered that they agreed or strongly agreed with the statement (Johnson, 2022).

One way to try to close the disconnect between student athlete mental health needs and accessing mental health services is through coaches. Coaches play a huge role in athletes' lives and can potentially make or break their mental health. For example, a coach may tear down an athlete's self-esteem, be a major cause of their mental health struggles, or help to build up

athletes' resilience when they are experiencing a crisis. It may sound like an easy task for a student athlete to tell all their problems to a coach and to trust them with mental health problems, but when asked if they felt their coaches took mental health concerns seriously, only 59% of male athletes and 50% of female athletes said they agreed (Johnson, 2022). This still leaves a large percentage of student athletes who do not have faith in their coaches' ability to help with mental health struggles. Ignoring this disconnect, or not improving it, could lead to more athletes feeling uncomfortable in seeking help for their mental health concerns, which in turn could result in additional mental health risks for those student athletes.

Mental Health and Coaching

According to Gearity and Thompson (2011), an effective coach is one who helps an athlete(s) improve self-esteem, efficacy, motivation, anxiety, and more. With this being said, a poor coach or ineffective coach, can be defined as being the opposite of this: someone who hinders (or lowers) an athlete(s) self-esteem, efficacy, motivation, anxiety, and more. Considering the apparent disconnect between student athletes' need for help with their mental health and their reluctance to approach their coaches for help, it's possible that poor or ineffective coaching could play a role in athletes not seeking help from coaches. Poor coaching may be responsible, at least in part, for many athletes' mental health issues, performance issues, self-esteem issues, etc. Other mental health concerns in athletes that could be a result of poor coaching include competitive trait anxiety, differing levels social and/or emotional support, and changes in well-being.

Psychological Effects from Poor Coaching

With regard to effects, a 2011 study found that there are five main issues or themes that athletes' experience as a result of poor coaching, namely when the coach: displays poor teaching,

is uncaring, is unfair, inhibits an athlete's mental skills, and exhibits poor coaching that results in decreased athlete coping (Gearity & Thompson, 2011). More specifically, the theme of poor teaching was seen through the athletes' perceptions of the coach as being unknowledgeable and poor at providing instruction, lacking individualization in learning, and being poor at managing (Gearity & Thompson, 2011).

The theme of coaches being uncaring was evident when athletes stated that poor coaches failed to provide emotional or relationship support, that the coach wasn't right for them, and that they were on their own (Gearity & Thompson, 2011). Rather than caring for their teams, poor coaches were described as being only concerned with winning and making themselves look good at all times.

The theme of coaches being unfair was represented in the way the coaches' treatment of athletes was perceived to be inequitable (Gearity & Thompson, 2011). Poor coaches were also found to play favorites and to ridicule, lie to, and degrade athletes who were not a part of this favored category. By not being a part of the favorite group, athletes stated that they formed a strong sense of distrust towards their coach (Gearity & Thompson, 2011).

The theme of inhibiting athletes' mental skills represented the numerous ways coaches were perceived to damage the mental performance of athletes and the team at large (Gearity & Thompson, 2011). In such cases, athletes felt like their coach was doing things that made the athlete's performance worse, such as dividing the team, causing self-doubt, and being distracting and demotivating. This caused athletes to feel like they were underachieving relative to their athletic capabilities (Gearity & Thompson, 2011).

Finally, the theme of coping represented the ways athletes dealt with and adapted to the poor coach's behavior (Gearity & Thompson, 2011). Athletes coped by directing their own learning or not listening to their coach.

Anxiety, Competitive Trait Anxiety, and Autonomy Supportive and Controlling Coaching

In addition to the above effects of poor coaching, having a poor coach is also capable of causing specific types of stress in athletes. Due to all the stressors student athletes face daily and the responses to poor coaching that they may endure, there are certain disorders that are especially likely to occur in college athletes. Anxiety disorders, or problems associated with anxiety, are one of the most common psychiatric problems in student athletes (Stull, n.d.). Examples include performance anxiety, panic disorder, and phobic anxiety after an injury (Stull, n.d.). Although not as common as the previously mentioned disorders, athletes may also struggle with generalized anxiety disorder and obsessive-compulsive disorder (Stull, n.d.). A more specific type of performance anxiety is called trait anxiety.

Trait anxiety describes anxiety that is a part of someone's personality or way of seeing the world (West, 2022). Trait anxiety can become so much a part of someone's personality that it controls the way they think, feel, and behave. People with high trait anxiety may perceive certain situations as threatening while others may not. Relatedly, competitive trait anxiety (CTA), or trait competitive anxiety, has been defined as a systematic tendency to react with overactivation before or during competitions (Ramis et. al, 2017). CTA can often be a direct result of poor coaching.

There are two main types of coaching often referred to when discussing any form of anxiety in sport: autonomy-supportive and controlling (note: autonomy controlling coaching is

similar to autonomy thwarting coaching, which is discussed in greater detail in the section on self-determination theory and basic psychological needs below) (Sheath, 2019). An autonomy-supportive coaching style is recognized by a coach offering explanations and justifications for their decisions, while also allowing a sense of athlete autonomy over decisions (Sheath, 2019). Autonomy-supportive is considered to be the optimal form of coaching, especially when trying to reduce the pressure that athletes have to deal with, whether it's internal or external (Sheath, 2019). A controlling coaching style is the opposite of an autonomy-supportive style. Rather than allowing the athlete to have autonomy over the session or training, a controlling coach tends to have an authoritarian approach (Sheath, 2019). An athlete may feel less in control of their actions when being coached by a controlling coach. On top of this, it is more likely for there to be an increase in pressure on the athlete (Sheath, 2019).

A recent trend in the research literature has been the idea that controlling coaching tends to have negative effects on athletes. A 2017 study found significant effects of the controlling coaching style on different forms of competitive anxiety, indicating that this kind of coaching could be an antecedent for athletes' anxiety (Ramis et. al, 2017). In other words, it seems that the more controlling a coach is, the more likely it is that an athlete will suffer from competitive anxiety. A 2019 study found that controlling coaching behaviors were significantly related to athletes' competitive trait anxiety, whereas autonomy-supportive coaching behaviors were not significantly related to trait anxiety (Cho et. al, 2019). This study also found that controlling coaching behaviors can contribute to athlete burnout. It was concluded that coaches should provide less controlling coaching to reduce anxiety and burnout in athletes (Cho et. al, 2019).

A 2012 study found that there was a significant relationship between coaches' anxiety level and athletes' anxiety level, a significant relationship between coaches' anxiety and athletes'

performance, and an inverse and significant relationship between athletes' anxiety and their performance (Mottaghi et. al, 2012). In other words, coaches' anxiety level seems to have a meaningful impact on athletes' anxiety. For example, constant pressure for a successful competition or season from a coach can cause high levels of stress for the athlete, whereas a coach's support and reassurance may help to reduce athletes' anxiety (Mottaghi et. al, 2012). Secondly, high levels of anxiety in a coach can lead to decreased athlete performance. The coaches' anxious behavior, and unnecessary or excessive feedback, can also cause mental imbalance or disturb the athletes' focus, leading to poor performance by the individual and the team (Mattaghi et. al, 2012). Lastly, when athletes' anxiety was high, performance levels would often be low, and vice versa (Mattaghi et. al, 2012).

Social/ Emotional Support

Periods of prolonged stress, or even short bursts of stress, can have lasting effects on athletes. If the stress is a direct result from coaching, athletes may feel like they have no support. Low levels of social and/or emotional support may make an athlete feel overwhelmed or unwelcome, so it is important for colleges and universities to make their athletes feel supported. On many college campuses, especially at large universities, schools like to make it known how much they support their athletes. With juggling a busy schedule, athletes can often feel stressed, so universities may try to encourage athletes to feel appreciated and supported. This can be done in ways such as faculty coming to games, clubs making social media posts about sport teams, clubs posting flyers about sporting events, and professors being understanding and flexible with student athletes and their schedules. With such efforts, it seems that university/college campuses attempt to provide a good amount of social support for athletes. However, such social efforts

may also imply more responsibility for coaches in providing emotional support for student athletes.

In examining social support in student athletes, Simmons and Bird (2022) identified two functional perspectives: perceived and received social support. Perceived social support refers to an individual's subjective judgment of their potential access to support (Simmons & Bird, 2022). In other words, perceived support is the support that each athlete believes is available to them from sources such as their coach, teammates, family, or friends. On the other hand, received support is the support provided to the recipient at a specific time (Simmons & Bird, 2022). Thus, received support is the actual support that is being given. Not surprisingly, the amount of social support that an athlete receives can factor into mental health issues. For example, lower levels of social support may lead to increased stress, which could increase the likelihood of mental health issues (Simmons & Bird, 2022). If a stressor is deemed to be a significant challenge in a person's life, then it may also affect well-being and health behaviors, which are moderated by social support (Simmons & Bird, 2022). Therefore, social support can be seen as a buffer to the effect that stressors may have on people, including college athletes (Simmons & Bird, 2022).

With student athletes, it has also been shown that perceived support plays a significant role for sport performance and psychological health outcomes, such as low levels of athlete burnout (Katagmai & Tsuchiya, 2016). This may be the case because research has found that perceived social support is especially beneficial for adolescent well-being. In fact, perceived social support has been found to protect adolescents from internalizing symptoms such as depression, anxiety, and loneliness, as well as promoting positive feelings such as hope, well-being, and security (Bi et. al, 2021). Such protective factors, resulting from perceived social

support, may allow a student athlete to stay positive and have a positive well-being, resulting in lower levels of burnout.

In a 2022 study, Simons and Bird aimed to determine if there were any significant relationships between the coach-athlete relationship, social support, and psychological well-being among college athletes. Results indicated that the coach-athlete relationship and social support were both positively correlated with well-being (Simmons & Bird, 2022). In other words, when there is a strong coach-athlete relationship, levels of social support are higher, and when the coach-athlete relationship is not as strong, levels of social support may be low.

Katagmai and Tsuchiya (2016) found that perceived and received support were positively related, meaning there is a positive correlational relationship between athletes' perception of and actual receipt of social support. The study also found that perceived support was positively correlated with a positive self-schema (Katagmai & Tsuchiya, 2016). They stated, "this suggests that reported perceived support may closely relate to one's schema, implying that social support, measured using perceived support, depends on the perception of themselves, rather than the outcomes of social support," (Katagmai & Tschuchiya, 2016, p. 1747).

Overall, effects of poor coaching such as poor psychological experiences, anxiety disorders, and differing levels of social and emotional support can all be tied into one common idea: well-being. Well-being is a holistic conceptualization of mental health that can help examine how well a person is doing overall.

Well-Being

Psychological well-being is an important factor to consider when examining the effects of coaching on student athlete mental health. According to Huppert (2009), psychological well-being is about lives going well; it is the combination of feeling good and functioning effectively.

Sustainable well-being does not always require people to feel good 24/7. Experiencing painful emotions such as disappointment, failure, and grief, are all a normal part of life. Being able to manage these negative emotions is essential for long-term well-being (Huppert, 2009). Psychological well-being is compromised when negative emotions are extreme or long lasting and begin to interfere with a person's ability to function in his or her daily life (Huppert, 2009).

Well-Being in Student Athletes

The NCAA conducted a well-being study to look at the impact that COVID-19 had on student-athletes (Johnson, 2022); however, the study has been continued post-pandemic and has attempted to take a deeper look into athletes' long-term well-being. This study looked at mental health concerns as a whole and not just exclusively at psychological well-being. For example, survey results from 2021 indicated that for student athletes, rates of mental exhaustion, anxiety, and depression have seen little change since Fall 2020 and remain 1.5 to 2 times higher than the levels identified before the pandemic (Johnson, 2022). Mental health concerns remained the highest among student-athlete demographic subgroups commonly displaying higher rates of mental distress (women, student-athletes of color, those on the queer spectrum, and those reporting family economic hardship) (Johnson, 2022).

The type of sport that a student-athlete participates in may also contribute to the levels of well-being and stress they report (Simmons & Bird, 2022). Nixdorf et. al (2016) studied the differences in depressive symptoms in athletes from individual/co-active team sports such as golf and swimming, and team/interactive team sports such as baseball and lacrosse. They found that athletes from individual sports reported significantly higher levels of depressive symptoms (Nixdorf et. al, 2016). To try to discover why this was, the researchers examined potential mediators relating to well-being, including team cohesion, perfectionism, and attribution style.

Results indicated that negative attributions for failure were highly correlated with individual sports; there was no significant relationship between cohesion or perfectionism and depression, but cohesion was associated with lower levels of depression, and perfectionism had a greater association with team sport athletes (Nixdorf et. al, 2016). Further, Simmons and Bird (2022) concluded that differences in well-being related concerns experienced by athletes could be attributed to the types of stressors they face based on the sport type they play. For example, individual athletes report more training and coach-related stressors, whereas team athletes report more stressors related to the selection process and making mistakes (Simmons & Bird, 2022).

Measuring Well-Being

Over time, well-being has been conceived of and measured in a number of different ways. Similarly, there are many different scales that can be used to measure well-being in different realms of life. Examples include the General Well-Being Scale (Dupuy, 1977), the Life Satisfaction Scale (Koivumaa-Honkanene, 1998), the Quality of Life Scale (Hyde et. al, 2003), and the Mental Health Continuum (Lamers et. al, 2011). However, few well-being scales have been adapted for sport-related well-being. In fact, there appear to be only two main well-being scales that have been applied to sports.

First is the Scales of Psychological Well-Being or Psychological Well-Being Scale (PWBS) (Ryff & Keyes, 1995). This is an 18-item scale that measures six aspects of well-being and happiness: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance (Ryff & Keyes, 1995). This scale was used in a 2013 study to look at the role of happiness in predicting the psychological well-being of male student-athletes (Ghasemour et. al, 2013). Results found that there is a relationship between happiness

and well-being, and that happiness, in a positive and meaningful way, predicts changes pertaining to psychological well-being (Ghasempour et. al, 2013).

Second is the Satisfaction with Life Scale (SWLS) (Diener et. al, 1985). This is a five-item scale designed to measure global cognitive judgment of one's life satisfaction (Diener et. al, 1985). To see this scale in action, we can look to a 2022 study that used the SWLS in order to measure well-being among student athletes. Lemelin and colleagues (2022) investigated the independent and joint role of parent and coach autonomy support in the prediction of athlete well-being and performance. The SWLS was adapted to fit a sport context and was used to measure subjective well-being (Lemelin et. al, 2022). Results indicated that parent and coach autonomy support have additive relations with athlete well-being, but that only coach autonomy support is associated with sport performance (Lemelin et. al, 2022).

Self- Determination Theory and Basic Psychological Needs

Well-being, at times, may be difficult to study due to how much it can change based on internal and external factors. Because of this, researchers have developed a theory that breaks well-being up into three separate categories, known as "needs," to discover how well-being is influenced. This theory is known as the Self-Determination Theory, and it is comprised of individual's three basic psychological needs of autonomy, competence, and relatedness. More specifically, Ryan and Deci (2000) define the Self-Determination Theory (SDT) as:

> An approach to human motivation and personality that uses traditional empirical methods while employing an organismic metatheory that highlights the importance of humans' evolved inner resources for personality development. Thus, its arena is the investigation of people's inherent growth tendencies and innate psychological needs that are the basis for their self-motivation and personality integration, as well as for the conditions that

> foster those positive processes. Inductively three such needs--the needs for competence, relatedness, and autonomy--that appear to be essential for facilitating optimal function of the natural propensities for growth and integration, as well as for constructive social development and personal well-being. (p. 68).

According to Self-Determination Theory, all representations of humanity show people to be curious, vital, and self-motivated (Ryan & Deci, 2000). At their best, people are expressive and inspired, striving to learn, extend themselves, master new skills, and apply their talents responsibly (Ryan & Deci, 2000). Most people show a lot of effort and commitment to their lives, which may suggest some persistent features of human nature. However, human nature still shows that people can be let down or have their spirits diminished. People also sometimes reject growth and responsibility, and others may prove to be isolated or irresponsible (Ryan & Deci, 2000).

Ryan and Deci (2000) believe human nature is heavily influenced by social environments, thus causing each individual to be motivated differently. However, Ryan and Deci (2000) discovered that there may be certain "needs" that drive people to act, think, or behave in a specific way. Elaborating on this idea, they say, "Researching the conditions that foster versus undermine positive human potentials has practical significance because it can contribute not only to formal knowledge of the causes of human behavior but also to the design of social environments that optimize people's development, performance, and well-being" (Ryan & Deci, 2000, p. 68). Research guided by the Self-Determination Theory (SDT) can help to shed light on how social environments, including coaching, relate to student athletes' well-being and psychological needs.

Need Satisfaction/Support vs. Need Frustration/Thwart

The SDT proposes that the degree to which any of the three main psychological needs (autonomy, competence, and relatedness) is unsupported or thwarted within a social context will have a detrimental impact on a person's wellness in that setting (Ryan & Deci, 2000). Autonomy is similar to independence. It is based on the understanding that people are empowered when they have a sense of choice and endorsement in a task--their actions are "volitional" (Towler, 2019). In other words, people with autonomy are making their own choices in terms of the task. Competence comes from the idea that individuals seek to control outcomes, and this control allows them to experience mastery over a task or domain (Towler, 2019). Humans are naturally social animals and have a need to interact with other human beings. This sense of relatedness is demonstrated through social connections and a high concern for others through caring (Towler, 2019).

The SDT also has generated a number of "mini theories" based on its underlying assumptions. One of these mini theories is the Basic Psychological Need Theory (BPNT). In contrast with the SDT, the BPNT states that the term psychological need is defined in a more specific and narrow way, that is, as a "psychological nutrient that is essential for individuals' adjustment, integrity, and growth" (Vansteenkiste et. al, 2020, p. 1). The main difference between the SDT and the BPNT is that the BPNT considers both the satisfaction and frustration of the three needs, with frustration representing a stronger and more threatening experiences than just the absence of its fulfilment (Vansteenkiste et. al, 2020). It should be noted that the two need components of BPNT can also be conceptualized as supportive and thwarting. When a need is partially or fully satisfied by interactions with others, the needs are supported. When the needs are frustrated, they are thwarted.

When autonomy is satisfied (or supported), one experiences a sense of integrity as their actions, thoughts, and feelings are self-endorsed and authentic; however, when frustrated (or thwarted), the individual may experience a sense of pressure and conflict, such as feeling pushed in an unwanted direction (Vansettnkiste et. al, 2020). Competence is satisfied when someone engages in activities and opportunities for using and growing their skills and expertise; however, it is frustrated when someone experiences a sense of ineffectiveness or failure and helplessness (Vanstennkiste et. al, 2020). Relatedness is satisfied by connecting to and feeling significant to others; however, it is frustrated when someone feels a sense of social alienation, exclusion, or loneliness (Vanstennkiste et. al, 2020).

Basic Psychological Needs Related to Sports and Coaching

Coaches are able to help satisfy/support or frustrate/thwart an athlete's needs. For example, a coach may help to satisfy an athlete's need of competence by helping them expand their skill, but a coach may also frustrate the need of competence by telling the athlete they are a failure and will never be good enough. When looking at how a coach, or coaching overall, affects an athlete, it is also important to consider how certain coaching traits or behaviors may affect aspects of an athlete's well-being. In order to understand what each athlete needs, and how each athlete may need different things, it is vital to understand that athlete's basic psychological needs. These needs affect every person, not just athletes, and each person is affected differently. Thus, every coach should have some understanding of humans' basic psychological needs and how they may affect athletes differently. When coaches don't have a general understanding of basic psychological needs as applied to their athletes, their coaching may suffer, which in turn can negatively affect the well-being of their athletes.

Many studies have been done in the sport world on how athletes' psychological needs or overall well-being is affected by certain aspects of the sport. Much of this research has focused on how psychological needs are affected after an injury (e.g., Putukian, 2015). However, with increased focus on athlete mental health and well-being, within the past 5-10 years studies have emerged that have examined the ways that coaching affects an athlete's psychological needs and/or overall mental health and well-being (e.g., Kerr et. al, 2020, Stirling & Kerr, 2013).

A 2018 study examined coaches' reported supportive and thwarting interpersonal behaviors, as well as their female athletes' perceptions of these behaviors (Rocchi & Pelletier, 2018). The study focused on exploring these relationships through the SDT. There were two main objectives in the study: One, determine the rate at which coaches overreported, underreported, or were in agreement with their athletes about the coaches' behaviors, and two, to explore how coaches' reports of their behaviors as well as athletes' perceptions of these same behaviors affected athletes' psychological needs in sport (Rocchi & Pelletier, 2018). Results indicated that when coaches and athletes were in agreement on supportive behaviors, it promoted need satisfaction. In contrast, thwarting behaviors predicted need frustration (Rocchi & Pelletier, 2018).

Another 2018 study examined the extent to which a coach's coaching style is associated with an athlete's basic psychological needs (Byrd, 2018). Results indicated that an authoritative head coaching style (i.e., a coach with high expectations, but someone who supports athletes in reaching them) was found to have a positive impact on an athlete's fulfillment of autonomy, competence, and relatedness (Byrd, 2018).

Barrio and colleagues (2021) found in a meta-analysis that autonomy-supportive coaching and controlled coaching behaviors affect athletes' basic psychological needs

differently. Controlled coaching behavior was associated with needs thwarting, which can lead to poor well-being or negative health concerns such as eating disorders, burnout, depression, negative affect, negative physical symptoms, perturbed physiological arousal, and antisocial behavior (Barrio et. al, 2021). Autonomy-supportive coaching was found to be associated with need satisfaction, which in turn was associated with various mental well-being outcomes such as positive affect, vitality, motivation, life satisfaction, resilience, self-concept, and prosocial behavior towards teammates (Barrio et. al, 2021).

Other studies included in the meta-analysis found that athletes' perception of autonomy-supportive coaches predicts athletes' perceived competence, autonomy, and sense of relatedness, which then in turn promotes motivation regulation, greater self-esteem and life satisfaction, positive, greater sport satisfaction, positive emotions in sports, and athletes' prosocial behavior towards teammates (Barrio et. al, 2021). These interactions seem to remain the same for all genders and all levels of competitions (all divisions of college sports) (Barrio et. al, 2021). Taken as a whole, this body of research indicates that athletes have an increased overall well-being and fewer mental health issues when they experience autonomy-supportive coaching behaviors.

Measuring Basic Psychological Needs Related to Coaching

The coach-athlete relationship has always been an interesting topic of study for researchers. This relationship can be studied in many different ways, such as how the relationship impacts an athlete and how the relationship changes as a function of some other factor like time or success. An important aspect of this relationship is knowing how the student athlete's basic psychological needs of autonomy, competence, and relatedness are affected. Coaches may affect an athlete's basic psychological needs in a positive or negative way. So, in order to fully understand this relationship, researchers have created surveys, or measures, in an

attempt to understand the dynamics of the relationship. For the purposes of this paper, there are two main measures of interest.

First is the Coach-Athlete Relationship Questionnaire (CART-Q) (Jowett & Ntoumanis, 2004). The CART-Q is an 11-item questionnaire relating to coach-athlete commitment, closeness, and complementarity (Jowett & Ntoumanis, 2004). This scale is very popular and has frequently been used when studying coach-athlete relationships. The scale is also versatile and can be adapted to fit other cultures. For example, we can see this scale in action by looking at a 2020 Korean study. Choi and colleagues (2020) wanted to investigate the relationships between perceived coaching behavior (autonomy-supportive and controlling), communication, coach-athlete relationship, and athlete burnout. Choi et. al (2020) indicated the following results:

> Autonomy-supportive coaching was positively related to communication, whereas controlling coaching was negatively related to communication. Communication was positively related to coach-athlete relationship and was negatively related to athlete burnout. Autonomy-supportive coaching was significantly related to both the coach-athlete relationship (positively) and athlete burnout (negatively), whereas controlling coaching was only related negatively to athlete burnout. Lastly, the coach-athlete relationship was negatively related to athlete burnout. (p. 1).

Next is the Interpersonal Behaviors Questionnaire (IBQ) (Rocchi et. al, 2016). The IBQ is based off of the SDT and the underlying idea that basic psychological needs are influenced by other individuals' interpersonal behavior and relationships (Rocchi et. al, 2016). The IBQ can be used in two ways: to measure the interpersonal behaviors of others (in this case it would be the athlete assessing their coach) (IBQ) and measuring self-reported interpersonal behaviors of oneself (in this case it would be the coach measuring themselves) (IBQ-self). The measure

consists of 24 items with six subscales, which examine behaviors that are autonomy-supportive, autonomy-thwarting (controlling), competence-supporting, competence-thwarting, relatedness-supportive, and relatedness-thwarting (Rochhi et. al, 2016). The IBQ can be seen in another Rocchi (2020) study that examined the role coach interpersonal behaviors and athlete motivation play in the performance trajectories of competitive swimmers from 2010 to 2017. The scale was used to assess the athletes' perceptions of their coaches' autonomy supportive, competence thwarting, and relatedness supportive interpersonal behaviors (Rocchi et. al, 2020). The longitudinal results indicated that perceptions of coaches' autonomy supportive behaviors were associated with less dropout and improved performance (Rocchi et. al, 2020).

In Season vs. Out of Season

In the existing literature**,** using the SDT to look at basic psychological needs (in nonathletes as well as athletes) has typically been done at one given point in time**.** However, when studying athletes and their wellbeing related to coaching, it might make sense to broaden the examination to include two distinct points in student athletes' lives—in season and out of season. A typical "in-season" is about four months, and the remaining eight months can be seen as the "out of season." A sport also has out of-season requirements from coaches, though, which is usually in the remaining semester, so the athlete does not get the full eight months of "off time." Athletes are typically involved with college athletics for the full collegiate year: the competitive semester (in season), and the training and building season (out of season).

While in season, student athletes are having much more direct contact with their coach since they are around them more often. Also, the demands of being in season such as practicing every day, competing in games one to two times a week, and balancing school demands can have a lot more impact on the athletes as compared to being out of season. Typically, athletes only

practice one to two times a week out of season and are mainly focusing on weightlifting and conditioning. Generally speaking, such activities are much easier to balance with classes and schoolwork.

Studying athletes in versus out of season is a relatively new area of study. Most research has looked at in season and out of season relative to factors such as academic performance or injury recovery (Clement et. al, 2015). Other components that are not commonly studied over time are mental health, well-being, and motivation. If researchers were to study these things over time, they could more effectively see what is impacting individual's well-being and motivation. This can also help with knowing if internal or external factors make a bigger difference on our overall well-being. The SDT focuses on intrinsic motivation, or internal motivation, which can be described as "engaging in activities for the inherent rewards of the behavior itself," (Cherry, 2021, para. 4).

Studying levels of intrinsic motivation in versus out of season is not common, but it has been done before. Amorose and Horn (2001) looked at whether the levels of intrinsic motivation changed in first-year college athletes changed from pre- to post-season. The study looked at how intrinsic motivation changed as a function of athletes' scholarship status and their perceptions of their coaches' behavior (Amorose & Horn, 2001). Results showed that time and scholarship status did not affect athletes' level of intrinsic motivation; however, results also showed strong support for the relationships between athletes' perceptions of their coaches' behavior and changes in athletes' level of intrinsic motivation over the season (Amorose & Horn, 2001). The results also found "increases in athletes' level of intrinsic motivation were associated with athletes' perceptions that their coaches exhibited high frequencies of training and instruction

behavior, and low frequencies of autocratic behavior and social support," (Amorose & Horn, 2001, p. 355).

Given that factors such as athlete mental health, well-being, and motivation are not commonly studied in versus out of season, we are generally unaware of the effects that could be occurring in an athlete at these two distinct periods of time. Looking at how student athlete wellbeing may change across time may also help in the understanding of the mental effects athletics may have on an athlete in the long run.

Summary and Need for Further Study

Due to the mental health concerns prevalent in today's student athletes, it is now more important than ever to begin studying how coaching may affect the mental health of athletes. Instead of examining mental health symptoms (or susceptibilities to various mental illnesses), well-being may be a more relevant variable to examine because it encompasses everything relating to a person's mental wellness into one component. In addition, studying well-being in athletes in versus out of season may provide additional insight into what the athletes are enduring and when, and how coaching may interact to affect their well-being. By knowing this, colleges and universities could be able to better equip themselves and improve on-campus mental health resources and support for student athletes. In addition, coaches could also be able to see the direct impact that they have on athletes' mental wellness and will hopefully be able to make adjustments to their coaching styles accordingly. All of this combined will then be able to hopefully lower the number of college athletes struggling with mental health disorders.

To recap, athletes have psychological needs that may be supported or thwarted by coaches. The Self-Determination Theory (SDT) suggests that people are motivated to grow based on the three basic psychological needs—autonomy, competence, and relatedness. The SDT

helps to investigate people's inherent growth tendencies and innate psychological needs that are the basis for their self-motivation and personality integration (Ryan & Deci, 2000). The idea that individuals have certain levels of self-motivation (and outside factors may influence these levels of motivation), was a big interest in the development of SDT. Studying the types of motivation can help in the understanding of why athletes play the sport that they do. If a coach, or coaching in general, is affecting the athlete, then looking at why the athlete is motivated can help determine how the coach is affecting them. Also, whether these needs are supported or thwarted can determine an athlete's overall experience during their sport, and whether the athlete is at an increased risk for experiencing poor well-being. Overall, athletes experiencing their needs being thwarted are likely to have lower levels of well-being, and athletes experiencing their needs being supporter are likely to have higher levels of well-being (Barrio et. al, 2021).

Need for Further Study

The purpose of the current research was to discover the possible effects coaching has on athletes' psychological well-being, comparing possible effects in season compared out of season. Looking at how psychological well-being is affected (as a whole) as a direct result of coaching is not something that was found to have been done before. Typically, specific mental health symptoms or disorders, such as anxiety or depression, have been studied as a result of athletes' perceptions of coaching (Ramis et. al, 2017; Mottaghi et. al, 2012; Gearity & Thompson, 2011). When well-being is mentioned or studied in the existing literature, it is typically used as a variable of comparison, instead of as a main variable of investigation. For example, Simmons and Bird (2022) studied well-being and how it relates to social support and the coach athlete relationship, but instead of specifically looking at levels of low or high well-being, they used other mental health symptoms such as stress, to discuss how well-being was affected.

Discovering how coaching directly affects athletes' well-being can help coaches better themselves and their coaching style, which has the potential to also improve athletes' overall experience during their sport and their overall mental health and well-being. Examining overall well-being as a part of the athletic experience has been under-examined. In contrast, other parts of being an athlete have been studied extensively such as injury response (Clement et. al, 2015) and how athlete motivation changes (Amorose & Horn, 2001), but little or no research exists regarding overall athlete well-being, especially as related to coaching. The closest thing to this study that has already been done is the NCAA Well-Being study, which goes into more detail on mental health symptoms rather than well-being as a whole. Therefore, this study is important because it will uncover aspects of coaching on athletes that have rarely, if ever been looked at before.

It is also important to study and compare these factors in and out of season so we can see how much change may be occurring in between these two distinct periods of time. In season, athletes have a lot more direct contact with coaches and may have more pressures on them, possibly leading to lower overall well-being. Out of season, athletes have more time to themselves to form their own schedules without the pressure of coaches, which may help to boost their mental health and well-being back to higher levels if a coach negatively affects their mental wellness. It's also important to incorporate studying well-being in and out of season because it is not something that is usually done. Typically, recovering from injuries, and how these injuries affect athletes psychologically is one of the only things done over time in regard to athletics (Clement et. al, 2015).

Variables of Interest

This study specifically looked at how coaching relates to psychological well-being in athletes in and out of season. Examining these three variables in combination is not something that has been done before; however, results from this study could help colleges and universities ensure their athletes have all the necessary tools to cope with low levels of well-being, and mental health symptoms. Results can also potentially help coaches to adjust their coaching styles to better fit the needs of their athletes.

Hypotheses

Given that this topic has never been exclusively studied before, there is little to go on regarding how coaching affects psychological well-being. However, some research on the effects coaching style has on certain mental health symptoms has occurred. This research typically shows coaches that are autonomy-supportive tend to have happier athletes who experience fewer poor mental health symptoms (Barrio et. al, 2021).

Hypotheses for the current study are based off these findings. Hypothesis 1 states that athletes who describe their coaches as being thwarting towards their basic psychological needs will report relatively low levels of well-being. Hypothesis 2 states that athletes who describe their coaches as being supportive of their basic psychological needs will report the relatively high levels of well-being. Hypothesis 3 states that athletes who may have relatively low well-being relating to thwarting coaching will be more likely to experience those effects in season than out of season; similarly, athletes with relatively high well-being related to supportive coaching, will be more likely to experience this effect in season as opposed to out of season. In other words, Hypothesis 3 is stating that results from Hypotheses 1 and 2 are more likely to occur in season than out of season.

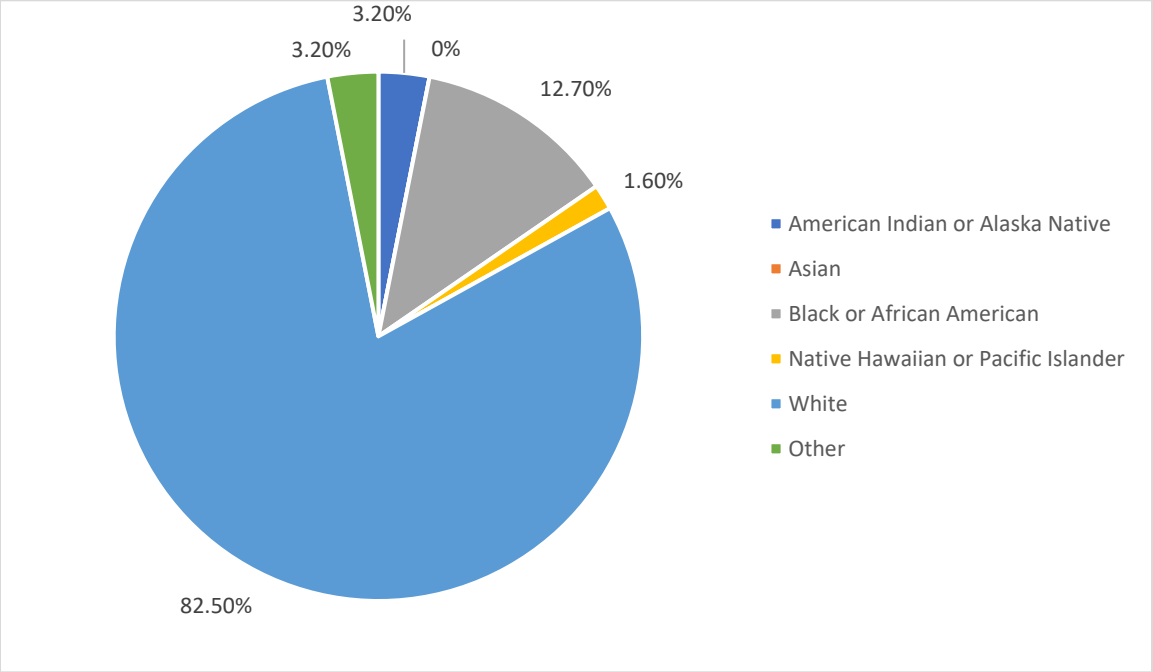
Method

Participants

This study researched college athletes' psychological well-being as an outcome of coaching in season and out of season at North Carolina Wesleyan University (NCWU). Participants completed an informed consent form (see Appendix A) and were asked to complete a brief demographics questionnaire (see Appendix B). At the time of the research there were 342 student athletes at NCWU, and among this group, 63 athletes (18.42%) chose to participate in this study. The specific age range for the sample was 18-23 years, and athletes in all undergraduate years (freshman- 5th year/graduate senior) participated. Among participants there were 32 (50.80%) males and 31 (49.20%) females. Below (see Figure 1) is a graph with the percentages from the races that were reported by participants, using United States Census Bureau categories. Given the varying response rates from each athletic team, the demographics also varied. The sample collected was predominately (82.50%) White.

Figure 1

Participant Racial Categories



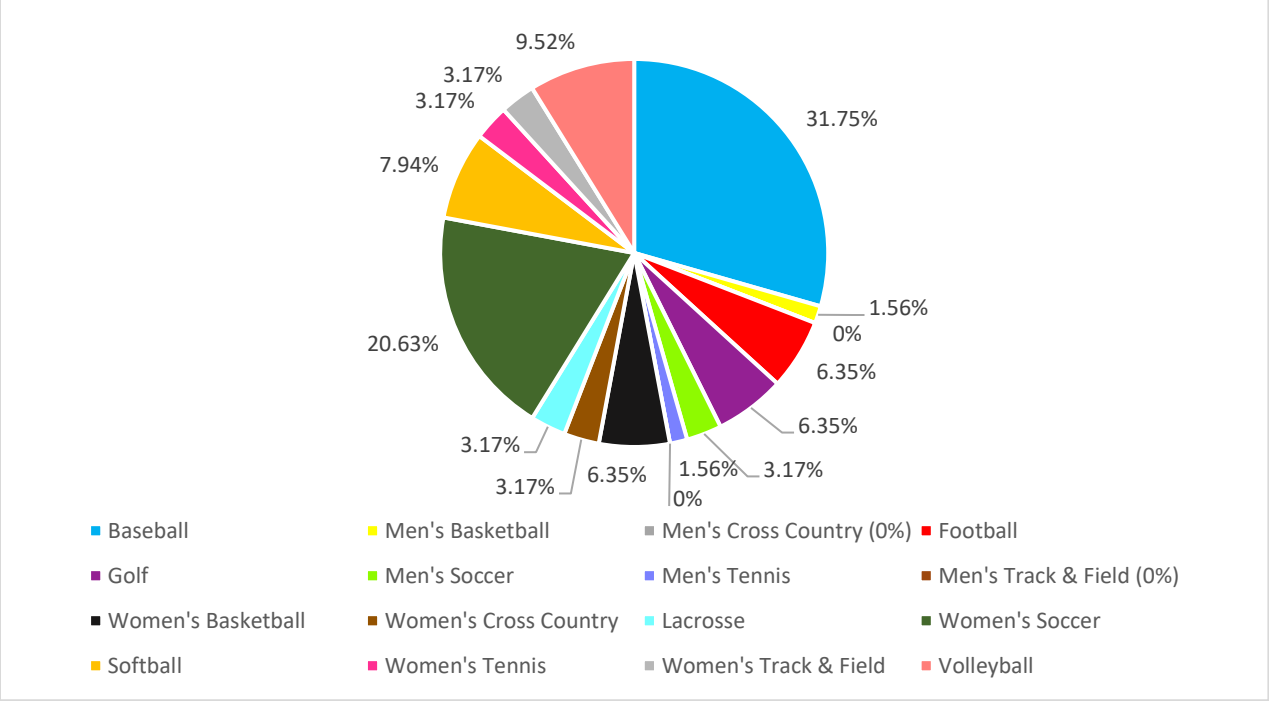
Eight of the 63 participants were international students (12.70%). Of the 16 athletic teams at NCWU, 14 teams were represented in the sample. Although considered an athletic sport, the cheer and dance squads at NCWU were not included in this study because their sport lasts year-round, and athlete experiences in season versus out of season were a key variable in this study.

Sport Breakdown

Of the 16 athletic teams at NCWU, there are eight male sports and eight female sports. The male sports are baseball, baseball, cross country, football, golf, soccer, tennis, and track and field. The female sports are basketball, cross country, lacrosse, soccer, softball, tennis, track and field, and volleyball. Each team on campus was given the same opportunity to participate in this study; however, responses varied from sport to sport. The pie graph below (see Figure 2) shows the percentages of each team that comprised the overall sample in this study.

Figure 2

Participant Sample by Sport



The response rate from each team each also varied. Among the male teams, the response rates were as follows: 20 out of 56 baseball players (35.71%), 1 out of 19 (5.26%) basketball players, 0 out of 9 (0%) cross country runners, 4 out of 89 (4.49%) football players, 4 out of 12 golfers (33.33%), 2 out of 44 soccer players (4.55%), 1 out of 27 (3.70%) tennis players, and 0 out of 10 (0%) track and field athletes. Among the female teams, the response rates were as follows: 4 out of 13 (30.77%) basketball players, 2 out of 8 (25.00%) cross country runners, 2 out of 12 (16.67%) lacrosse players, 13 out of 22 (59.10%) soccer players, 5 out of 22 (22.73%) softball players, 2 out of 7 (28.57%) tennis players, 2 out of 6 (33.33%) track and field athletes, and 6 out of 17 (35.29%) volleyball players. The total number of athletes at NCWU, and the total number of athletes on each team, was obtained from data from the Spring 2023 Census of Traditional completed by the Accreditation and Institutional Research Board at NCWU.

Materials

For this research, coaching behaviors and athletes' psychological well-being were assessed in season versus out of season.

Measure of Coaching In vs. Out of Season

Given that one of the main variables of this study is coaching and how it affects athletes, a measure of the coach-athlete relationship was needed. More specifically, a measure that took the basic psychological needs of athletes into account was desired. After comparing various scales that study coach-athlete relationships (Jowett & Ntoumanis, 2004), it was determined that for the purposes of this study, the Interpersonal Behaviors Questionnaire (Rocchi et. al, 2016) would be the most beneficial (see Appendix C). In comparison to some other scales, this measure has more items (24) and six subscales (autonomy-supportive, autonomy-thwarting, competence-

supportive, competence-thwarting, relatedness-supportive, and relatedness-thwarting) which can be used to more deeply understand the effects a coach has on an athlete.

Participants answered survey questions on a scale from 1 (do not agree at all) to 7 (completely agree). This scale also has two different forms that can be given to coaches or athletes, although for the purposes of this study, only the version for athletes was used. When distributing surveys, the IBQ was given to participants twice. First, the IBQ was given to participants with instructions to answer questions on the perceptions of their relationship with their coach in season. Then, the same questions were given, but were based on the participants' perceptions of their relationship with their coach out of season. In previous research, the IBQ was found to be both reliable and valid (Rocchi et. al, 2016).

Measure of Athlete Psychological Well-Being

One of the main variables of interest in this study is psychological well-being. So, a measure that assessed psychological well-being was needed. After careful consideration, it was concluded that for the purpose of this paper, the Satisfaction with Life Scale (Diener et. al, 1985) would be the most beneficial. This is a five-item scale designed to measure global cognitive judgement of one's life satisfaction (Diener et. al, 1985). The SWLS has been adapted to fit sport context before (see Appendix D) and was demonstrated to be successful in measuring well-being among athletes (Lemelin et. al, 2022). In completing the SWLS, participants answered survey questions on a scale of 1 (strongly disagree) to 7 (strongly agree). The SWLS has been demonstrated to be both reliable and valid (Boyle et. al, 2015).

Procedure

To help in the distribution the survey for this study, a student athlete team representative was chosen from each athletic team. This athlete was tasked with sending a link with the survey

to their teammates. In addition to this, the primary researcher made flyers with a QR code to the survey and hung them around the campus of NCWU. The primary researcher also recruited athletes by conversations on campus with the QR code available and ready to be scanned.

All participants were first asked to complete the informed consent form (see Appendix A) before completing any surveys. The demographic questionnaire, IBQ, and SWLS were available to all athletes once consent was given. Athletes began by completing the demographic questionnaire (see Appendix B). Upon completion, students then filled out the IBQ (see Appendix C) twice--(once for in season and once for out of season) followed by the SWLS (see Appendix D). Athletes completed all surveys on the Qualtrics web-based questionnaire service.

Results

To understand the extent to which the IBQ subscales for in season and out of season correlated with well-being, a series of simple correlations was completed (see Table 1). The correlations were the first step completed to help make sense of the relationships between the study's main variables: coaching behaviors and athlete well-being. As can be seen, across the correlation matrix, every thwarting coaching subscale was negatively correlated with student-athlete well-being. Thus, student athletes' perceptions indicated that the more thwarting a coach's behavior is perceived to be, the lower an athlete's well-being is. The correlation matrix also showed that every supporting coaching subscale was positively correlated with student athlete well-being. In other words, athletes perceived that the more supportive a coach behaves, the higher the athlete's well-being is.

While these correlations are surely interesting, correlation does not mean causation. Therefore, more sophisticated, in-depth analyses needed to be completed in order to analyze all

three hypotheses. Simple linear regressions were completed to test Hypothesis 1 and 2, while two Analyses of Variance (ANOVA) were completed to test Hypothesis 3.

Hypotheses 1 and 2

Hypothesis 1 was tested to see if athletes who described their coaches as being thwarting toward their basic psychological needs would report relatively low levels of well-being. Hypothesis 2 was tested to see if athletes who described their coaches as being supportive towards their basic psychological needs will report relatively high levels of well-being. A series (12) of simple linear regressions were conducted to determine if various supporting and thwarting coaching behaviors (measured with the six IBQ subscales in season and the six IBQ subscales out of season) could significantly predict psychological well-being in college athletes. Results from those analyses revealed that perceptions of coaching behavior did indeed predict athlete well-being. The results supported these hypotheses by indicating that athletes tend to have a relatively high overall level of well-being when their coaches are being more supportive of their basic psychological needs. Results also indicated that athletes tend to have lower levels of well-being when their coaches are being more thwarting of their basic psychological needs. All of the respective data for both of these hypotheses yielded significant results. Additional details are below.

Simple Linear Regressions

Autonomy Supportive

Simple linear regression was used to test if autonomy supportive coaching behaviors significantly predicted athlete well-being in season. The overall regression was statistically significant (R^2=.322, F [1,61] =28.936, p=<.001). Overall then, it was found that autonomy

supportive coaching behaviors significantly predicted higher levels of well-being in athletes in season (β= .605, p=<.001).

This relationship was also explored in the out-of-season context. The overall regression was again statistically significant (R^2=.310, F [1, 61] =27.358, p=<.001). Thus, it was found that autonomy supportive coaching behaviors significantly predicted higher levels of well-being in athletes out of season. (β=.672, p=<.001)

Autonomy Thwarting

Simple linear regression was used to test if autonomy thwarting coaching behaviors significantly predicted athlete well-being in season. The overall regression was statistically significant (R^2=.258, F [1,61] = 21.220, p=<.001). It was found that autonomy thwarting coaching behaviors significantly predicted lower levels of well-being in athletes in season (β= -.565, p= <.001).

Also, the relationship was explored out of season. The overall regression was statistically significant (R^2=.114], F [1,61] = 7.841, p= <.001). Therefore, autonomy thwarting coaching behaviors significantly predicted lower levels of well-being in athletes out of season (β= -.349, p= <.001).

Competence Supportive

Simple linear regression was again used to test whether competence supportive coaching behaviors significantly predicted athlete well-being in season. The overall regression was statistically significant (R^2= .396, F [1,61] = 40.074, p= <.001). It was found that competence supportive coaching behaviors significantly predicted higher levels of well-being in athletes in season (β= .672, p= <.001).

Out of season, the overall regression was statistically significant (R^2= .379, F [1,61] = 37.264, p= <.001). It was found that competence supportive coaching behaviors significantly predicted higher levels of well-being in athletes out of season (β= .622, p= <.001).

Competence Thwarting

Simple linear regression was once again used to test if competence thwarting coaching relationships significantly predicted athlete well-being. The overall regression was statistically significant (R^2= .237, F [1,61] = 18.899, p= <.001). It was found that competence thwarting coaching behaviors significantly predicted lower levels of well-being in athletes in season (β= -.518, p= <.001).

The relationship was also explored in the out of season context. The overall regression was statistically significant (R^2= .179, F [1,61] = 13.301, p= <.001). It was found that competence thwarting coaching behaviors significantly predicted lower levels of well-being in athletes out of season (β= -.529, p= <.001).

Relatedness Supportive

Simple linear regression was used to test if relatedness supportive coaching behaviors significantly predicted athlete well-being. The overall regression was statistically significant (R^2= .321, F [1,61] = 28.807, p= <.001). It was found that relatedness supportive coaching behaviors significantly predicted higher levels of well-being in athletes in season (β= .596, p= <.001).

In addition to in season, the relationship was studied out of season. The overall regression was statistically significant (R^2= .365, F [1,61] = 35.017, p= <.001). It was found that relatedness supportive coaching behaviors significantly predicted higher levels of well-being in athletes out of season (β= .600, p= <.001).

Relatedness Thwarting

Once again, simple linear regression was used to test if relatedness thwarting coaching behaviors significantly predicted athlete well-being. Again, the overall regression was statistically significant (R^2= .207, F [1,61] = 15.908, p= <.001). It was found that relatedness thwarting coaching behaviors significantly predicted lower levels of well-being in athletes in season (β= -.441, p= <.001).

Out of season, the overall regression was statistically significant (R^2= .261, F [1,61] = 21.581, p= <.001). It was found that relatedness thwarting coaching behaviors significantly predicted lower levels of well-being in athletes out of season (β= -.507, p= <.001).

Hypothesis 3

Hypothesis 3 was tested to see if the results from Hypothesis 1 and Hypothesis 2 were more likely to occur in season versus out of season. In order to test Hypothesis 3, two analyses of variance (ANOVAs) were conducted. The first ANOVA was conducted examining the relationship between athlete psychological well-being and thwarting coaching behaviors in season and out of season. This ANOVA was a 2 (thwarting: in season vs. thwarting: out of season) by 1 (well-being) analysis. Results from this ANOVA indicated an effect of in season versus out of season. More specifically, coaches were perceived to be more thwarting in season than they were out of season (F [1,38] =25.915, p=<.001). However, there was no interaction effect of athletes' overall well-being and thwarting coaching in vs. out of season (F [24,38] =1.299, p=.230).

A second ANOVA was conducted examining the relationship between athlete psychological well-being and supportive coaching behaviors in season and out of season. This ANOVA was a 2 (supportive: in season vs. supportive: out of season season) by 1 (well-being)

analysis. Results indicated there were no significant effects relating to perceptions of supporting coaching either in or out of season. In other words, athletes viewed their coaches as being equally supportive in season and out of season (F [1,24] =1.140, p=.292). Results also indicated there was no significant interaction effect of supportive coaching in season vs. out of season on athletes' overall well-being (F [24,38] =1.547, p=.112).

Discussion

With regard to the results, Hypothesis 1 (athletes who describe their coaches as being thwarting toward their basic psychological needs will report relatively low levels of well-being) was supported. Hypothesis 2 (athletes who describe their coaches as being supportive towards their basic psychological needs will report relatively high levels of well-being) was also supported. Results from all 12 simple linear regressions confirmed the correlational findings that coaching behaviors significantly predicted athlete well-being. In other words, results indicated that athlete perceptions of coaching behavior is a significant predictor of athlete psychological well-being. Across the board, thwarting coaching behaviors were associated with lower levels of well-being, and supportive coaching behaviors were associated with higher levels of well-being.

The results from the current research parallel results from previous studies. Rocchi and Pelletier (2018) found that when coaches and athletes were in agreement on supportive behaviors, it promoted need satisfaction. In contrast, they found that thwarting behaviors predicted need frustration. These results are seen in the current research across the correlation matrix and through all simple linear regressions. The current research's results were also mirrored in a 2021 meta-analysis (Barrio et. al, 2021). This meta-analysis stated controlling coaching behaviors (i.e., thwarting) was associated with needs thwarting, which can lead to poor well-being or negative health concerns such as eating disorders, burnout, depression, negative

affect, negative physical symptoms, perturbed physiological arousal, and antisocial behavior (Barrio et. al, 2021).

Hypothesis 3 (results from Hypotheses 1 and 2 will be more likely to occur in season rather than out of season) was partially supported. Results indicated that coaches exhibited more thwarting coaching behaviors in season than out season. However, although coaches were shown to be more thwarting in season than out, there was no interaction effect of thwarting coaching in vs. out of season on athlete well-being. Therefore, this part of Hypothesis 3 was supported. However, this effect was not seen with regard to supportive coaching. Results indicated no significant difference in athletes' perceptions of supportive coaching in season and out of season. The reasoning for this could be because athletes see their coaches as being equally supportive of their overall mental wellbeing, no matter what time of year it is.

Although Hypothesis 3 was only partially supported, in retrospect, the results seem to make sense. In terms of thwarting coaching behaviors, it seems logical for the data to show that coaches are more thwarting in season than out because of the more contact they have with athletes during the in-season period. It would be very difficult, if not impossible, for coaches to be thwarting out of season due to the lack of contact they have with their athletes. In terms of supportive coaching behaviors, it may also make sense for there to be no difference seen with regard to time of season as this could mean that athletes are viewing their supportive coaches supportive no matter what the season. This is exactly what every coach should strive for. Regardless of what season their athletes are in, if a coach shares a deep, supportive connection with an athlete, they will be available whenever the athlete needs support. It may also be common for supportive coaches to be checking in with their athletes out of season.

Strengths and Limitations of Study

There were a handful of limitations to this study. First, there was a non-representative sample of athletes. Only 63 out of 342 (18.42%) athletes participated in this study. Several other athletes gave consent to take part in the study but did not complete the survey in its entirety. All incomplete surveys had to be discarded. This sample did not include an equal or representative percentage of athletes from each athletic team offered at NCWU. In fact, there were teams that were not represented at all in this study. Another limitation of this study was that the sample was demographically limited. Over half (82.50%) of participants were White. International students were also not properly represented in this study. Only eight participants out of 63 (12.70%) were international students. These eight international students only account for 8.79% of the international student athletes at NCWU (91 total international student athletes).

In addition to these limitations, the study also has several strengths. First, two out of three of the hypotheses were fully supported. While Hypothesis 3 was only partially supported, this partial support is logical (i.e., coaches should strive to be as supportive as possible regardless of if their athletes are in season or not). This is a strong indication that coaches play a tremendous role in the lives of student athletes, and therefore, the results of this study provide knowledge for future researchers (and coaches).

This research also adds to the limited number of studies that have been conducted on the potential effects of coaching on some aspect of athletes' mental health/well-being. In addition, this study included variables that have seemingly never been studied together before. As discussed in the literature review, student athlete mental well-being has apparently never been studied in an in-season and out-of-season context. The only research that used this time frame relate to studies conducted on injuries and/or fitness levels. By including this aspect into the current research, we are able to see the direct effects of specific coaching behaviors and how

they affect athletes when they are in two different seasons (or times) of their sport in college. Overall, the results of this study can be used to demonstrate the direct effects a coach has on their athletes. These effects can then in turn be used to make changes to coaching staff, or on athlete mental health protocols if needed.

Future Research

To address the limitations of this study, future research should be conducted to include a larger sample of participants. This includes having a greater number of overall participants, an equal percentage of athletes from each athletic team, and also attempting to get a more diverse population of ethnicities. All of these things could be done by conducting the research at a larger college or university or across multiple institutions. To make the results even more specific, other (or more specific) coaching behaviors could also be studied.

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Table 1

Pearson Correlation Matrix for IBQ Subscales & Well-Being

		AS.In	AS.Out	AT.In	AT.Out	CS.In	CS.Out	CT.In	CT.Out	RS.In	RS.Out	RT.In	RT.Out	WellBeing
AS.In	R	1	**.842****	**-.742****	**-.654****	**.811****	**.746****	**-.679****	**-.635****	**.819****	**.703****	**-.810****	**-.720****	**.567****
	Sig.		<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
AS.Out	R	**.842****	1	**-.690****	**-.713****	**.738****	**.733****	**-.673****	**-.696****	**.784****	**.722****	**-.748****	**-.792****	**.556****
	Sig.	<.001		<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
AT.In	R	**-.742****	**-.690****	1	**.784****	**-.587****	**-.550****	**.629****	**.575****	**-.705****	**-.625****	**.743****	**.702****	**-.508****
	Sig.	<.001	<.001		<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
AT.Out	R	**-.654****	**-.713****	**.784****	1	**-.452****	**-.370****	**.642****	**.665****	**-.666****	**-.506****	**.720****	**.682****	**-.338****
	Sig.	<.001	<.001	<.001		<.001	.003	<.001	<.001	<.001	<.001	<.001	<.001	.007
CS.In	R	**.811****	**.738****	**-.587****	**-.452****	1	**.918****	**-.768****	**-.699****	**.790****	**.744****	**-.764****	**-.723****	**.630****
	Sig.	<.001	<.001	<.001	<.001		<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
CS.Out	R	**.746****	**.733****	**-.550****	**-.370****	**.918****	1	**-.631****	**-.620****	**.716****	**.794****	**-.699****	**-.733****	**.616****
	Sig.	<.001	<.001	<.001	.003	<.001		<.001	<.001	<.001	<.001	<.001	<.001	<.001
CT.In	R	**-.679****	**-.673****	**.629****	**.642****	**-.768****	**-.631****	1	**.870****	**-.727****	**-.592****	**.759****	**.666****	**-.486****
	Sig.	<.001	<.001	<.001	<.001	<.001	<.001		<.001	<.001	<.001	<.001	<.001	<.001
CT.Out	R	**-.635****	**-.696****	**.575****	**.665****	**-.699****	**-.620****	**.870****	1	**-.657****	**-.565****	**.749****	**.715****	**-.423****
	Sig.	<.001	<.001	<.001	<.001	<.001	<.001	<.001		<.001	<.001	<.001	<.001	<.001
RS.In	R	**.819****	**.784****	**-.705****	**-.666****	**.790****	**.716****	**-.727****	**-.657****	1	**.844****	**-.854****	**-.831****	**.566****
	Sig.	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001		<.001	<.001	<.001	<.001
RS.Out	R	**.703****	**.722****	**-.625****	**-.506****	**.744****	**.794****	**-.592****	**-.565****	**.844****	1	**-.786****	**-.877****	**.604****
	Sig.	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001		<.001	<.001	<.001
RT.In	R	**-.810****	**-.748****	**.743****	**.720****	**-.764****	**-.699****	**.759****	**.749****	**-.854****	**-.786****	1	**.876****	**-.455****
	Sig.	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001		<.001	<.001
RT.Out	R	**-.720****	**-.792****	**.702****	**.682****	**-.723****	**-.733****	**.666****	**.715****	**-.831****	**-.877****	**.876****	1	**-.511****
	Sig.	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001		<.001

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix A

North Carolina Wesleyan University Consent to Participate in a Research Study Adult Participants

Consent Form Version Date: November 15, 2022
Title of Study: The Effects of Coaching on Athlete's Psychological Well-Being In vs. Out of Season
Principal Investigator: Jordan Fransee
Principal Investigator Department: Department of Psychology
Principal Investigator Phone number:757-802-2496
Principal Investigator Address: 3400 N. Wesleyan Blvd Rocky Mount, NC 27804
Principal Investigator Email Address: jf257745@my.ncwc.edu
Co-Investigators: Dr. Fred Sanborn

What are some general things you should know about research studies?
You are being asked to take part in a research study. To join the study is voluntary.
You may refuse to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies. Deciding not to be in the study or leaving the study before it is done will not affect your relationship with the researcher, your instructors, or North Carolina Wesleyan University.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study.

You will be given a copy of this consent form. You should ask the researchers named above, or staff members who may assist them, any questions you have about this study at any time.

What is the purpose of this study?

The purpose of this study is to discover the possible effects that coaching has on an athlete's psychological well-being, and how well-being may be affected in season and out of season.

Are there any reasons you should not be in this study?
There are not any known reasons why you should not take part in this study.

How many people will take part in this study?
If you decide to be in this study, you will be one of approximately 100-300 athletes in this research study.

How long will your part in this study last?
If you decide to take part in this study, you will be using approximately 10 minutes of your time.

What will happen if you take part in the study?
If you decide to take part in this study, there will be four questionnaires. The first questionnaire contains questions regarding demographic information for research purposes, the second and third questionnaires with both be a measure of coaching- (one for in season and one for out of season), and the fourth questionnaire will be a measure of well-being.

What are the possible benefits from being in this study?

This research is designed to benefit coaches, colleges, and universities to better understand the struggles that athletes may face on a daily basis. The research may be used to help colleges and universities better equip themselves to handle athletes' mental health struggles, and to help coaches to adjust their coaching styles. There are no monetary benefits involved with this research.

What are the possible risks or discomforts involved from being in this study?
Athletes may be uncomfortable answering questions about how their coach's behavior effects their mental health. This may bring up uncomfortable feelings, or feelings of doubt, because they probably have never done it before; however, tactics will be used to keep all information confidential and anonymous.

How will information about you be protected?
The study will be completely anonymous, and information recorded on the demographics questionnaire will not affect responses to other questionnaires.

What if you want to stop before your part in the study is complete?
Your participation in this study is voluntary and you can withdraw from this study at any time, without penalty. The investigators also have the right to stop your participation at any time.

Will you receive anything for being in this study?
You will not receive anything for being a part of this study.

Will it cost you anything to be in this study?
It will not cost you anything to be in this study. It is free and voluntary to participate.

What if you are a NCWU student?
You may choose not to be in the study or to stop being in the study before it is over at any time. This will not affect your class standing, grades at NCWU, or your relationships with your instructors or the college. You will not be offered or receive any special consideration if you take part in this research.

What if you are a NCWU employee?

Taking part in this research is not a part of your college duties, and refusing will not affect your job. You will not be offered or receive any special job-related consideration if you take part in this research.

What if you have questions about this study?

You have the right to ask, and have answered, any questions you may have about this research. If you have questions about the study (including payments), complaints, concerns, or if a research-related injury occurs, you should contact the researchers listed on the first page of this form.

What if you have questions about your rights as a research participant?

All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject, or if you would like to obtain information or offer input, you may contact the Institutional Review Board Chair, Dr. Jarrod Kelly at (252) 985-5261 or by email to jkelly@ncwc.edu.

Participant's Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to participate in this research study.

_____ _____

Signature of Research Subject Date

_____

Printed Name of Research Subject

_____ _____

Signature of Research Team Member Obtaining Consent Date

_____

Printed Name of Research Team Member Obtaining Consent

Appendix B

Demographic Questionnaire

Directions: Please check, or fill-in, the box that best applies to you. (Note: You must be 18 years or older to participate)

1. Sex
    - ☐ Female
    - ☐ Male
2. Race
    - ☐ American Indian or Alaska Native
    - ☐ Asian
    - ☐ Black or African American
    - ☐ Native Hawaiian or Pacific Islander
    - ☐ White
    - ☐ Other _____
3. Native Country _____
4. Age _____
5. Grade
    - ☐ Freshman
    - ☐ Sophomore
    - ☐ Junior
    - ☐ Senior
    - ☐ 5th Year/ Graduate Senior
6. Sport (Select all that apply)

- Baseball
- Basketball
- Cross Country
- Football
- Golf
- Lacrosse
- Soccer
- Softball
- Tennis
- Track & Field
- Volleyball

7. Is your sport currently in season?
    - Yes
    - No

Appendix C

Interpersonal Behaviors Questionnaire

Directions: Please answer all questions using the following scale:

7- Completely agree

6- Agree

6- Slightly agree

4- Neither agree nor disagree

3- Slightly disagree

2- Disagree

1- Do not agree at all

Please answer the following questions about your relationship with your coach IN SEASON using the above scale.

1.My coach gives me the freedom to make my own choices in season.

2.My coach supports my decisions in season.

3.My coach supports the choices that I make for myself in season.

4.My coach encourages me to make my own decisions in season.

5.My coach pressures me to do things their way in season.

6.My coach imposes their opinions on me in season.

7.My coach pressures me to adopt certain behaviors in season.

8.My coach limits my choices in season.

9.My coach encourages me to improve my skills in season.

10.My coach provides valuable feedback in season.

11.My coach acknowledges my ability to achieve my goals in season.

12.My coach tells me that I can accomplish things in season.

13.My coach points out that I will likely fail in season.

14.My coach sends me the message that I am incompetent in season.

15.My coach doubts my capacity to improve in season.

16.My coach questions my ability to overcome challenges in season.

17.My coach is interested in what I do in season.

18.My coach takes the time to get to know me in season.

19.My coach honestly enjoys spending time with me in season.

20.My coach relates to me in season.

21.My coach does not comfort me when I am feeling low in season.

22.My coach is distant when we spend time together in season.

23.My coach does not connect with me in season.

24.My coach does not care about me in season.

Please answer the following questions about your relationship with your coach OUT OF SEASON using the above scale.

25. My coach gives me the freedom to make my own choices out of season.

26.My coach supports my decisions out of season.

27.My coach supports the choices that I make for myself out of season.

28.My coach encourages me to make my own decisions out of season.

29.My coach pressures me to do things their way out of season.

30.My coach imposes their opinions on me out of season.

31.My coach pressures me to adopt certain behaviors out of season.

32.My coach limits my choices out of season.

33.My coach encourages me to improve my skills out of season.

34.My coach provides valuable feedback out of season.

35.My coach acknowledges my ability to achieve my goals out of season.

36.My coach tells me that I can accomplish things out of season.

37.My coach points out that I will likely fail out of season.

38.My coach sends me the message that I am incompetent out of season.

39.My coach doubts my capacity to improve out of season.

40.My coach questions my ability to overcome challenges out of season.

41.My coach is interested in what I do out of season.

42.My coach takes the time to get to know me out of season.

43.My coach honestly enjoys spending time with me out of season.

44.My coach relates to me out of season.

45.My coach does not comfort me when I am feeling low out of season.

46.My coach is distant when we spend time together out of season.

47.My coach does not connect with me out of season.

48.My coach does not care about me out of season.

Appendix D

Satisfaction with Life Scale

Please answer the following questions using the following scale:

7- Strongly agree

6- Agree

5- Slightly Agree

4- Neither agree nor disagree

3- Slightly disagree

2- Disagree

1- Strongly disagree

1.In most ways my life as an athlete is close to ideal.

2.The conditions of my life as an athlete are excellent.

3.I am satisfied with my life as an athlete.

4.So far I have gotten the important things I want in life as an athlete.

5.If I could live my athletic life over, I would change almost nothing.