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Ally W. Claytor

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ISOLATION, ATHLETIC IDENTITY, AND SOCIAL SUPPORT: AN EXPLORATION AMONG INJURED STUDENT ATHLETES

by

ALLY CLAYTOR

(Under the Direction of Brandonn Harris)

ABSTRACT

Season ending and career ending injuries make up a large portion of all injuries (Tirabassi et al., 2016). Among psychological consequences to these types of injuries, isolation is a social consequence that has been identified as occurring after injury (Gould et al., 1997). Isolation is related to loss of identity for an athlete (Mankand et al., 2009). Additionally, low levels of support have been shown to increase feelings of isolation in injured athletes (Mitchell et al., 2014). The purpose of the present study was to explore the experience of isolation as a psychological response to injury among athletes with career ending or season ending injury. The present study utilized a general interpretive qualitative methodology to gain an understanding of athletes' personal experiences with isolation, athletic identity, and social support. Seven athletes were recruited from a division I university. The themes suggested isolation is an individualized experience and regardless of outside factors, teammate support was present throughout respondents. Additionally, isolation is often experienced early onset after injury. The findings suggest athletic trainers and coaches should attempt to keep athletes involved with the team in a meaningful way while they are rehabilitating from an injury (Podlog & Dionigi, 2010). Additionally, coaches in particular can aid in positively influencing an athlete during injury recovery by providing social support (Park, 2000). Sport psychologists are not only

in a good position to provide support for student-athletes, but also to educate teams about the injury process and how support can be provided for injured athletes.

INDEX WORDS: Isolation, Injury, Athlete, Identity, Psychology, Season

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ALLY CLAYTOR

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ALLY CLAYTOR

Major Professor: Brandonn Harris

Committee: Jody Langdon

Tamerah Hunt

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CHAPTER 1

INTRODUCTION

Each year, over 472,000 and 65,000 athletes participate in National Collegiate Athletic Association (NCAA) and National Association of Intercollegiate Athletics (NAIA) athletics, respectively (NAIA, 2018; NCAA, 2014). Participation in sport can be a positive experience for many athletes. However, as participation rates increase, the likelihood of sport injury occurs as a potential result of that experience.

Injury is commonplace within collegiate athletics and has been defined as an athlete being forced to miss at least one day of competition or practice (NCAA, 2017). In the 2003-2004 season, approximately 15,000 injuries were reported to NCAA through the Injury Surveillance Program (ISP), in which only NCAA institutions that have agreed to participate in the program report injuries (Hootman, Dick, & Agel, 2007). Since this is a voluntary program, this number is likely to be underreported. Further, although this statistic is dated, it has been shown that injury rates have remained relatively stable over the past 16 years (Hootman et al., 2007). This suggests that approximately 23% of NCAA student-athletes experience injury each year.

Type of injuries may range from mild to severe and vary regarding time of recovery and modalities utilized during the rehabilitation process. Indeed, with variability associated with type and severity of injury, many athletes may experience more serious injuries that result in longer periods of time lost, as seen with season-ending injuries, or a permanent time lost, such as with a career ending injury. Season ending injuries have typically been defined as an athlete being unable to compete in the remainder of the

competitive season following injury. Specifically, a study conducted on elite skiers with season ending injuries, season ending injury was defined as “one that prevented a skier from completing a ski racing season and kept him or her off skis for at least three months” (Gould, Udry, Bridges, & Beck, 1997a, p. 363). Common examples of season ending injuries include anterior cruciate ligament (ACL) tears, concussions, medial collateral ligament (MCL) sprains and tears, and back injuries (Gould et al., 1997a; Gould, Udry, Bridges, & Beck, 1997 b; Gould, Udry, Bridges, & Beck, 1997c; Tirabassi et al., 2016). Contrastingly, career ending injuries result in an athlete being unable to compete in their sport for the rest of their lifetime. These injuries vary and can depend on many factors. Examples of career ending injuries include spinal injuries and head injuries. Whether an injury is career or season ending, both can lead to a series of physiological and psychological consequences experienced by the affected athlete.

Both physical and psychological consequences are present following an injury. Physical manifestations and consequences of injury are oftentimes more observable, as overt signs and symptoms are present for fractures, sprains, strains, and other injuries. Extensive research has examined the physical aspects of injury and strategies to improve the rehabilitation outcomes (Brewer, 1999; Ruddock-Hudson, O’Halloran, & Murphy, 2011; Scherzer et al., 2001). However, psychological consequences have also been consistently identified as being present following an injury (Arvinen-Barrow, Hurley, & Ruiz, 2017; Bejar, Fisher, Nam, & Larson, 2017; Brewer, 2007; Gould et al., 1997a; Ruddock-Hudson, O’Halloran, & Murphy, 2012; Ruddock-Hudson, O’Halloran, & Murphy, 2014; Wiese-Bjornstal, Smith, Shaffer, & Morrey, 1998). Psychological symptoms or experiences may not present as obvious as their physical counterparts, as

professionals initially focus on treating the symptoms related to physical pain. Although important, emotional and psychological distress following injury may not receive as much attention by health professionals. Examples of psychological consequences include fear of unknown, tension, anger, depression, frustration, grief, and emotional coping (Wiese-Bjornstal et al., 1998). These consequences have consistently shown to influence rehabilitation adherence, recovery from injury, and overall psychological wellbeing of injured student-athletes (Arvinen-Barrow, Hurley, & Ruiz, 2017; Bejar, Fisher, Nam, & Larson, 2017; Brewer, 2007; Gould et al., 1997a; Ruddock-Hudson, O'Halloran, & Murphy, 2012; Ruddock-Hudson, O'Halloran, & Murphy, 2014; Wiese-Bjornstal, Smith, Shaffer, & Morrey, 1998). One example of a symptom or consequence of injury that has not been explored by the literature is isolation.

While isolation has been identified as a psychological response to injury, it has not been a focal point of the extant literature regarding psychological responses to injury. Isolation is not explicitly defined in previous literature, but is often described as feeling cut off from the team, coach, and familiar routines (Gould et al., 1997). According to this description of isolation, injury itself is isolating because an individual is unable to participate in or perform the same tasks as they were able to before being injured (Thomas & Rintala, 1989). Therefore, feeling removed or isolated from the team can elicit a psychological response for the injured athlete (Gould et al., 1997; Wiese-Bjornstal, 1998).

Within the psychological response to injury literature, researchers often attempt to explain why isolation occurs after the onset of injury (Bejar et al., 2017; Thomas & Rintala, 1989). One explanation provided is that an injured athlete may be a reminder that

injury is a risk to every athlete, so others may want to distance themselves from the idea that it may happen to them (Thomas & Rintala, 1989). Another possible explanation is that isolation may result from the perception that coaches and teammates were angry with the athlete and thus, the athlete did not feel like they belong anymore which led to feeling isolated (Bejar et al., 2017). The hypothesis of the explanation of why isolation occurs is also accompanied by examination into when it may occur.

Circumstances in which athlete's may perceive isolation from teammates and coaches to occur are: after major surgery (Shapiro et al., 2017; Udry, 1997), at the onset of injury (Evans et al., 2012), and during the rehabilitation process (Evans et al., 2012; Madrigal & Gill, 2014; Ruddock-Hudson et al., 2012; Ruddock-Hudson et al., 2014). Furthermore, as the severity of an injury increases, the experience of isolation also increases during the rehabilitation process (Ruddock-Hudson et al., 2012; Ruddock-Hudson et al., 2014). Gould and colleagues (1997) conducted a study on elite skiers that had sustained season-ending injuries and attended rehabilitation on a regular basis. Of the 21 skiers, 66.6% experienced a lack of attention from teammates and coaches or isolation. In addition, 81% experienced social concerns in general, such as lack of social support received or used, and avoidance of undesirable social situations. These are situations and times where isolation initiates a stress response for the athlete, as they are perceiving themselves to be isolated from their sport. However, isolation is not always an antecedent to stress, but may be used as a coping mechanism (Gould et al., 1997; Thomas & Rintala, 1989). Although isolation has been noted in many studies, some have suggested that isolation is a coping mechanism used by injured athletes. Injured athletes may desire to be isolated from their sport as a way to sort things out, concentrate on

rehabilitation, and/or avoid uncomfortable situations where they feel like they have to act as if they are feeling okay in front of their teammates and coaches (Gould et al., 1997; Thomas & Rintala, 1989). Other factors, such as athletic identity, may also influence the extent to which an athlete experiences isolation (Brewer et al., 1993; Brewer, 1994; Evans & Hardy, 1995).

Athletic identity has been defined as the “degree to which an individual defines oneself within their role as an athlete” (Brewer, Van Raalte, & Linder, 1993, p. 237). An athlete with high athletic identity may find participation in sport to be very important to them and may even have a difficult time identifying as anything other than an athlete (Brewer & Peptitas, 2017). Contrastingly, an individual with low levels of athletic identity may find participation in sport to be important but may not be as important as participation in school or other activities. Unfortunately, research has shown that those with high levels of athletic identity have a more difficult time transitioning into a role that does not allow for the same nature of athletic participation an athlete is accustomed to (Giannone, Haney, Kealy, & Ogrodniczuk, 2017), or complete withdrawal from participation as oftentimes occurring with an injury (Brewer et al., 1993).

Research has also suggested that athletic identity influences how an individual may respond to injury (Brewer, Cornelius, Stephan, & Van Raalte, 2010; Manuel et al., 2002; Wiese-Bjornstal et al., 1998). Individuals higher in athletic identity have been found to respond more negatively to injury than those lower in athletic identity (Manuel et al., 2002; Brewer et al., 1993; Brewer, 1994; Evans & Hardy, 1995). Further, it has been shown that athletes higher in athletic identity may participate in rehabilitation over-adherence (Hilliard, Blom, Hankemeier, & Bolin, 2017; Podlog, Gao, Kenow et al.,

2013). Over-adherence can be defined as “behaviors and underlying beliefs of athletes who engage in rehabilitation efforts that exceed practitioner-recommended guidelines” (Granquist, Gill, Appaneal, 2010, pg. 252). In addition, athletes with high athletic identity responding to a career-ending injury may experience a difficult time transitioning out of their sport or role as an athlete (Arvinen-Barrow et al., 2017; Brock & Kleiber, 1994; Stoltenburg, Kamphoff, & Lindstrom Bremer, 2011). In addition to athletic identity, social support has been identified as a factor that influences how an athlete copes with an injury (Clement & Shannon, 2011; Gould et al., 1997; Madrigal & Gill, 2014; Rees et al., 2010; Yang et al., 2010) and may be associated with isolation (Bejar et al., 2017; Evans et al., 2012; Gould et al., 1997; Mitchell, 2011; Mitchell et al., 2014; Tracey, 2003).

Social support has been defined as, “an exchange of resources between two individuals perceived by the provider or the recipient to be intended to enhance the well-being of the recipient” (Shumaker & Brownwell, 1984, p. 11). This definition focuses on the act of receiving social support. However, it has also been defined according to the perception of the support received. Yang et al. (2014, p. 373) defines social support as, “an athletes’ appraisal of the support that might be available to them, from their social network and how satisfied they were with that support.”

Social support has the potential to help athletes cope with injury, reduce negative stress responses, and facilitate recovery (Corbillon, 2008; Clement & Shannon, 2011; Madrigal & Gill, 2014; Yang et al., 2010). While rehabilitation is occurring, athletes have not only reported being more satisfied with social support provided by athletic trainers than by teammates and coaches (Clement & Shannon, 2011; Yang et al., 2010), but social support provided by staff, such as athletic trainers and coaches, has been shown

to facilitate recovery (Gould et al., 1997). As rehabilitation progresses, athletes receive more social support from their team (Madrigal & Gill, 2014), which is preferred when it is emotional support that is being provided (Corbillion, 2008). Different types of social support, such as informational support, are preferred by the athlete from the coaching staff (Corbillion, 2008). Regardless of who is providing the support, research has demonstrated that high levels of social support are associated with low levels of devastation and feeling dispirited as psychological responses to injury (Rees et al., 2010). These psychological responses to injury are often comorbid with the experience of isolation as a psychological response to injury (Bejar et al., 2017; Evans et al., 2012; Gould et al., 1997; Mitchell, 2011; Mitchell et al., 2014; Tracey, 2003).

The literature suggests that there are interactions between isolation and social support, both as a stress response (Evans et al., 2012; Mitchell, 2011) and a coping strategy (Gould et al., 1997). In particular, low levels of esteem support are associated with increased levels of restlessness and isolation (Mitchell et al., 2014). Overall, social support is recognized by injured athletes as being important to recovery; however, athletes report having difficulties attending practice because of the emotional responses it elicited such as loneliness, sadness, confusion, and frustration (Tracey, 2003). Further, athletes often feel the need to turn away from the team for social support, to friends and family, due to feeling isolated from the team (Bejar et al., 2017). Gould, Udry, Bridges, and Beck (1997) conducted a seminal study on the psychological adjustment to sport injury. The athletes reported experiencing isolation and distance from coaches and teammates. The authors theorized that successful injury recovery was associated with the amount of social support, attention, and empathy received from coaches and teammates.

In summary, the literature suggests that isolation can be an important psychological response to an injury among athletes. However, this has not been a focal point of the literature thus far, but rather an experience examined concurrently among other injury response studies. Additionally, evidence suggests that isolation may be related to both athletic identity and social support. However, previous research has taken a broad approach to examining psychological responses to injury, rather than focusing on certain responses specifically, especially isolation. With these three constructs intersecting, especially when examining season and career ending injuries, it appears significant to examine these constructs in more depth. In order to understand isolation further, it is also important to understand athletes' experiences with both athletic identity and social support. Therefore, the purpose of the current study is to explore the experience of isolation as a psychological response to injury among athletes that have sustained a career ending or season ending injury. Specifically, the questions this study seeks to answer are a) how do athletes experiencing season or career ending injuries describe their experience with isolation and b) how does the experience of isolation relate to that of athletic identity and social support. To answer these questions, the present study utilized a general interpretive qualitative methodology in order to gain an understanding of injured athletes' personal experiences with isolation, athletic identity, and social support.

CHAPTER 2

METHODS

Participants

Seven NCAA Division I male and female athletes from a university in the southeast United States who had sustained a season ending or career ending injury, and who were currently not participating in sport due to that injury, were recruited for this study. Overall, six females and one male were recruited. Five out of seven participants identified as white, one participant identified as Jamaican-American or black, and one participant identified as multi-racial. Participants included one freshman, one redshirt freshman/academic senior, one sophomore, three juniors, and one senior. Participants were recruited from multiple teams including women's tennis, women's volleyball, men's soccer, women's soccer, and cheerleading. Four participants experienced season ending injuries, while three experienced career ending injuries. However, one participant also chose not to continue their sport after the season due to academic requirements. Season ending injuries were diagnosed as hip impingement and labral tear, two ACL with meniscus tears, and a ruptured Achilles tendon. Career ending injuries included concussion, nerve damage in the elbow, and herniated discs. Time away from sport participation ranged from two and a half months to two and a half years. The recruitment of participants was based on inclusion and exclusion criteria, as noted in Appendix A. Participants were recruited using paper and email fliers. Emails were sent to athletic trainers, who then forwarded the email to athletes that met the criteria. In addition, paper fliers were posted in athletic facilities at the NCAA division I university. Participation in the study was completely voluntary.

Instrumentation

Demographics. Demographic information was collected verbally at the beginning of the interview. The following information was collected: age, gender identity, race, sport, year in college, injury diagnosis, current time away from sport, estimated return date (if applicable), season ending or career ending (see Appendix B).

Isolation. To investigate isolation, the PRSII, developed by Evan and colleagues (2008) was used to formulate interview questions. It is intended to be used to assess an athlete's psychological response to injury after the onset of the injury. The subscales include psychological responses to injury that have been identified by the literature: devastation, dispirited, reorganization, feeling cheated, restlessness, and isolation. For the purpose of this study, isolation was the subscale used to create interview questions, as isolation is the construct of interest. Examples of items that address isolation are: "socially I feel like an outcast" and "my teammates seem to have lost interest in me."

Social Support. The modified form of the Social Support Survey (SSS) developed by Richman, Rosenfeld and Hardy (1993) was also used to develop interview questions. The different types of social support used in this scale are: listening support, emotional support, emotional challenge, reality confirmation support, task appreciation support, task challenge support, tangible assistance support, and personal assistance support. The types of support that were used to create questions in this questionnaire were listening support, emotional support, reality confirmation support, task appreciation support, tangible assistance support, and personal assistance support, as these are from the perspective of the recipient of social support. For this particular survey, questions that are asked include: (a) who provides the particular form of social support and what his or

her relationship is to the participant, (b) satisfaction with the overall quality of support received, (c) perceived difficulty in obtaining more of the particular form of support, and (d) perceived importance of the form of support for the participant's overall well-being. These questions were used to develop the current study's interview questions, while only using questions that target the previously mentioned types of support.

Athletic Identity. Finally, the AIMS was also used to develop interview questions. This questionnaire was developed by Brewer and Cornelius (2001) and is a 7-item, 7-point Likert-type scale. The AIMS assesses the multidimensional nature of athletic identity using three subscales. The subscales include: social identity, exclusivity, and negative affectivity. Social identity assesses the degree to which an athlete identifies with social aspects of the athletic role. Exclusivity measures how strongly the participant's identity reflects performance in the athletic role, while neglecting other roles, such as the student role. Finally, negative affectivity assesses the degree to which negative affect results from not participating in sport. All three subscales were used to develop interview questions for the current study.

The interview questions were developed by creating open ended questions of each item in the questionnaires. In order to pilot the questions, the researcher ran a pilot interview with a former student-athlete. The data was piloted in order to ensure that the interviews ran smoothly, technology worked, and that the information gathered would answer the questions of interest. The pilot data was recorded using the researcher's phone and laptop. The researcher then consulted with another expert in the field in order to process the pilot data. It was determined by both parties that the interview ran smoothly and that the questions asked were appropriate in order to answer the research questions.

The Researcher as an Instrument. Although previously established measures were used to develop the semi-structured interview questions (see Appendix B), the main instrumentation in the current study was the researcher herself, congruent with other qualitative studies (Patton, 1990). The purpose of using a general interpretive qualitative design was to gain a deeper understanding about the construct of isolation and its association with social support and athletic identity. This design allowed for a deeper understanding of a phenomenon in which previous research lacks. A deeper understanding allows for further investigation of the phenomenon in later research as well.

The principal researcher's biases were associated with their current role as a mental performance consultant for athletes participating in this Division I University's athletic programs. The researcher's goal in this role is to listen to their athlete's needs and provide assistance in the form of mental skills training. This is a bias as the researcher had to leave that role and enter into the role of a researcher. The role of the researcher included listening and asking questions, not teaching skills. In order to keep this from happening, instead of consulting during the interviews, the researcher journaled after each interview in order to let consulting ideas out in writing.

Additionally, although the study excluded participants in which the researcher is working with the athlete in the role of a mental skills consultant, the researcher had been consulting an athlete that was experiencing isolation as a result of a season ending injury. This could potentially bias the researcher in the questions or probes that were asked. Further, as a former collegiate athlete, the researcher has had teammates that have experienced feelings of isolation due to season or career ending injury and have shared

these feelings with the researcher. In order to eliminate researcher bias, multiple individuals coded the data to ensure consistency in interpretation of data. In addition, the participants reviewed the interviews in order to ensure they were consistent with their beliefs and true experiences.

Procedures

First, approval was obtained from the International Review Board at the primary researcher's institution. Prior to enrollment in the study, participants were provided with and asked to sign an informed consent document stating that they understood that participation was completely voluntary, as well as confirming their understanding that (a) interviews were recorded for future transcripts via the researcher's laptop and phone as a backup, (b) they could refuse to be interviewed or cancel an interview at any time, (c) they would be allowed to ask questions at any time throughout the process, (d) transcribed interviews would be sent to them for review prior to analysis, (e) transcribed interviews would be reviewed by the researcher and research team for thematic identification, and (f) there were no incentives for participation.

Once enrolled, the primary researcher set up a time with the participant in which the interview took place. Measures were taken by the researcher to ensure confidentiality of the participants. This included keeping files with identifiable information in a double locked location as well as eliminating identifiers in the coding process by giving the participant a pseudonym. After consent forms were signed, participants verbally answered the demographics survey. Once this was completed, the semi-structured interview began. After the interview was complete, participants were given a copy of the

consent form which included resources such as contact information for counseling services in case they decided that they would like to seek those resources.

Data Analysis

The interviews conducted by the researcher were transcribed and analyzed for content. Member checking was performed by redistributing transcribed interviews to the participants asking them to determine the accuracy of their statements (Lincoln & Guba, 1985). Once accuracy of statements was ensured, a content analysis was performed to begin the categorization of data (Hsieh & Shannon, 2005). The primary researcher, along with their research associates, read through the transcribed interviews. From there, general impressions were shared. Next, the researchers independently read the transcripts several times, taking notes about common words, phrases, or ideas, where appropriate. After several iterations of this process, the researchers came together again to compare notes and establish themes. A theme was identified if it appeared to reach saturation toward a similar experience. Once themes were established, all data were organized to best represent specific themes.

CHAPTER 3

RESULTS

Themes

Two main themes, and one second order theme, were identified. These main themes suggested a) isolation can be an individualized experience and b) regardless of outside factors, teammate support was present throughout respondents. The second order theme suggests that even though isolation is individualized, it is often experienced early after the onset of the injury. Further, additional findings are presented that did not necessarily meet the criteria and/or were not sought as a main aspect of the current study.

Isolation can be an Individualized Experience. The student-athletes interviewed experienced different situations with regards to type of injury, recovery timeline, and team dynamics. Additionally, no definition of isolation was given to the respondents, as there is no current definition in the literature. Thus, the way isolation was perceived, and the individual experiences related to isolation were very unique. Isolation is expressed in terms of physical and social isolation. Physical isolation was defined by the researchers as feelings of isolation as a result from being in a different location or having physical differences in accordance to the rest of the team. Further, social isolation was defined by the researchers as feelings of isolation as a result from missing social interactions with the team. Examples of these perceptions and experiences are as follows.

Isabelle perceived experiencing isolation after her surgery when her team was participating in activities in which she could not participate. She explained, “we did certain team activities like they went out for dinner or we did like a haunted trail for Halloween and things like that and I could not come, so that was hard because I felt like I

wasn't part of it anymore." Isabelle also had a leadership role in weights but felt isolated in weights when she was able to come back to the weight room. She commented, "especially in weights, I felt like I was a leader on the team... when I got back, I was not as strong as I used to be and I was on the last rack alone because I had my modified weights, and so that role was kind of, like it went away from me." The researchers interpreted not being able to attend activities and dinners as both physical and social isolation, as she was not physically able to be at the activities and she was not able to socialize with her team during this time. Further, the researchers interpreted Isabelle's weight room isolation as a loss of a previous role that she felt she could no longer hold once she became injured, which would be defined as social isolation, as Isabelle was not interacting in the same way socially as she had been previously. While Isabelle felt isolated in weights and outside activities, others felt isolated in different ways.

Laura explained that material items like team gear, while not important, did have an impact on the isolation that she felt from her team. She said:

"They didn't give me any gear when I came back after having surgery and it was preseason and I didn't get any gear, but they still wanted me around, so [it was] just kind of like I was not matching everybody. Like everybody had the same thing like that was just weird like not that material things are important it was just like I didn't feel part of the team because everybody was in the same thing and I was in last year's stuff... I don't know. It was just like I was more of a burden being there, like I was a waste of space kind of."

This type of isolation was interpreted by the researchers as being social isolation as a result of having physical differences from the rest of the team.

Laura was also the only student-athlete to respond that she did isolate herself from her team and attributed that to the lack of a relationship with her coach stating, “I was really looking forward to having such a close relationship with my coaches, and not having that- it was really hard... I did isolate myself; I know that.”

Caroline was forced to medically disqualify (MDQ) after having surgery on two herniated discs that did not recover in the way the athletic trainers and physicians expected. She explained that she felt isolated in the fact that she does not attend weights anymore, which is physical isolation from the team. She commented, “I don’t go to lift anymore, so I don’t get to see that stuff either.” Sydney experienced a similar situation where she felt isolated from sitting out of team activities, but in her case, she was sitting out of practice instead of weights. She explained that she feels isolated “sitting down at practice.”

Autumn tore her ACL during the latter half of spring season and was still recovering when their fall season started. She explained that the isolation she felt stemmed from being unable to create relationships with the freshman class, which is social isolation from the team. She stated:

“So the new freshman class that came in, I’m not as close with them as everyone else is because I haven’t had the time to play- like actually play- with them, which a lot of the bonding happens during conditioning... and I didn’t travel this fall... a lot of the bonding happens on the road, so I wasn’t able to bond that much with the freshman class.”

For Ashley, isolation occurred when she was participating in rehabilitation due to her injury and was not able to be close to her teammates at practice. She said, “there’s

times I can't be on the mat and I have to do rehab with [the athletic trainer] and I'm like, 'oh, I wish I was over there with my friends and practicing.'" This experience is both physical and social isolation as she is physically in a different location from the rest of practice, and she is socially unable to interact with her teammates during that time. For others, this isolation may have been necessary for healing.

Henry endured a season-ending concussion in which, for the first few months in recovering from his injury, he was forced to isolated himself in order to recover from the physical symptoms of his concussion. He explained,

"I used to feel very isolated because I mean right after it happened and following... six to nine months, I just couldn't do much. I couldn't really be social because that just made [my head] feel worse, not psychologically but physically... I did feel isolated, but I was also kind of forced to isolated myself because I didn't want to be with other people because I could not handle it in my head because I just felt really overwhelmed due to my condition."

Although his experience of the nature of isolation was unique for Henry, the timing of isolation occurring early in the injury process was not as unique.

Early onset of isolation. As stated earlier, Henry felt isolated soon after his injury diagnosis. Similarly, six of seven of the participants felt isolated early after injury diagnosis, specifically within the first month, although for some this isolation occurred for a longer period of time. This occurred when they had begun rehabilitating or rejoining practice and team activities. Therefore, if present, early onset isolation was a theme among the respondents, and was defined as being a second order theme in the study.

Isabelle, Caroline, and Autumn all experienced isolation due to having to attend rehabilitation rather than practice or interacting with their teammates. After being asked to what extent she felt isolated from her team, Isabelle stated, “in the beginning, quite a lot because while we were practicing, I was doing rehab, and when we were in weights, I was not allowed to be there.” Similarly, Autumn stated, “during the season I felt excluded because I would always do my rehab during practice instead of actually being in the gym.” After her MDQ, Caroline had a different experience with her feelings of isolation. She commented, “before I DQ’d, I definitely felt isolated because I was still trying to get back to practice.” Although this was experienced long after her injury occurred, the feelings set in soon after the diagnosis that the injury was career ending. The previous examples involve feelings of isolation associated with rehab, there were early onset feelings of isolation due to other reasons as well, including some that were related to

A few of the participants acknowledged an awkward, scared, or unknown feeling that they associated being related to feeling isolated, as they responded to the question of, “to what extent did you feel isolated from your team.” They experienced these feelings right after being diagnosed and having to attend practice with a new status on the team. Isabelle mentioned, “at first, I was scared because I didn’t know what was going to happen... especially after surgery, I have never had surgery before.” This was interpreted by the researchers as being social isolation, as there was an uncomfortable feeling that resulted in feeling isolated as a result of having to interact socially with their team. Similarly, Laura indicated feeling awkward especially due to the experience of others on the team having been injured in the past. Responding to the same question she stated,

“...a little awkward especially when I first DQ’d... I don’t know how they [felt] about me being there and like if they [would] get mad that- because I know that other people that have been injured, if they ever complained about having to wake up early or whatever they’d be like, ‘but you don’t even play, you’re not doing anything that we’re doing so you shouldn’t be complaining,’ so I definitely tried to just be super, super overly positive about everything like be so happy to still be there and that was kind of like awkward. I didn’t know how to react if they were going to be mad that I was around- like not so much jealous, but just be like [why are you here, you’re not doing anything].”

Similarly, Ashley did not know how her teammates and coach would react due to her previous injury and illness experience over the past year. She explained, “at first, I wasn’t sure how they were going to react because I am a freshman and at the beginning of the year, I had hurt my back... then I got better, and then I got sick, and then I got better, and then I got the final cut.”

Although injury diagnosis and predicted time away from sport was different for each athlete, they all felt isolation near the beginning of their diagnosis, whether that was right after the injury occurred, or months later when the news came that they would not return to play. Again, the isolation felt may have been conceptualized differently among respondents, but they all reported feeling this soon after their diagnosis.

Regardless of outside factors, teammate support was present throughout respondents. Support did not always come from the same source, and coach support was not always present within our respondents. However, all of the respondents expressed having had an adequate amount of teammate support, both emotional and tangible when

needed. Isabelle stated, “my teammates were all very helpful... they would give me rides and help me go eat... they would ask how I’m doing.” Laura’s teammates provided similar emotional and tangible support. When asked who listens to her when she needs to talk, she said, “my best friend, she’s on the team. She actually had an ACL injury that happened last spring... so she can relate to me on a personal level... we have on more girl that is DQ’d... I’ve kind of talked to her about it.” When asked who she spends enjoyable time with she said, “our team is super, super close, so I do a lot of stuff with them.” She also explained that her roommates who are also teammates drove her to weights and practice when she could not drive due to her injury. Similarly, Sydney explained, “I still cheer [my teammates] on, they still cheer me on, and so it’s still like being part of the team.” She also stated, “[my teammate] helped me a lot with going to class because it was really hard getting around.” Again, her teammates provided emotional and tangible support. The remainder of the respondents all had very similar experiences when it came to teammate support, both emotional and tangible.

The researchers picked up on the overwhelming amount of teammate support that was expressed by each respondent, as they were not specifically asked about teammate support. Respondents were asked specifically about emotional and tangible support with the following questions: “who listens to you when you need to talk” and “who takes you to practice, weights, and team activities.” The fact that each of them responded that their teammates listen to them and give them the help that they need provided the researchers with the theme that teammate support was consistent among these respondents.

Additional Findings

The above were themes identified as being consistent among participants. The following are additional findings that were not consistent among all respondents, however, warrant comment, as they were expressed by the majority of participants. These findings are important to discuss as they may warrant future research in these areas.

Social support from coaches and/or athletic trainers was present following injury. Four participants experienced either a lack of support or negative support from coaches following their injury. Laura stated, “when the injury occurred [coach] was really frustrated with me... he wasn’t really being supportive like every time I came back from the doctor’s, he didn’t really want to hear what they had to say. He just didn’t really care.” Additionally, after DQing, coach agreed to give her more of a coaching role but did not follow through with it. She noted, “as soon as I started trying to help... he told them not to listen to me that I wasn’t a coach.” This seemed to be a lack of emotional support that Laura experienced. Caroline had a similar experience with initial negative coach support. She stated, “my coach, when they first found out, told me that it was a mental block and it wasn’t an injury.” She also claimed, “when we got the results of how bad the [injury was], my head coach was indifferent to it. It was kind of like ‘I care for you,’ but very fakely.” When the decision to MDQ came to fruition, she commented that she did not have much of a choice in the matter. She explained, “my coach asked me to- before I made the decision to MDQ it was implied that I had to.” The researchers interpreted this as strong evidence for perceived negative emotional support from a coach. Autumn reported believing that one of her coaches who had experienced a similar injury did not empathize well with her being injured. She commented, “she kind of belittled it almost because she was like, [I’ve been through three, you’re fine, you can do

this].” Ashley experienced a lack of support from her coach as well where the coach used a joking manner to address her injury, as she responded to a question about the support she received from her coaches. She explained, “he still makes his smart comments... he’ll be like, [why aren’t you out there with your team].” It was clear to the researchers that each of these respondents has a psychological response to the perception of support received from their coaches. As research shows that these psychological responses may influence the course of recovery (Weise-Bjornstal, 1998), it is clear that the perception of negative social support from coaches may have influenced their perception of recovery in a negative way for these respondents.

Although many participants experienced a lack of support from coaches, Sydney experienced a large amount of support from her coaches. She explained, “[Head coach] was a big part of my life last semester and [assistant coach], they were kind of like my mom and dad here.” When Sydney was asked the extent to which she felt isolated during her injury process she responded, “not at all. None... besides just sitting down at practice.” Psychological responses can always be positive and influence recovery positively. In this situation, positive emotional support from coaches influenced Sydney in a positive way throughout recovery.

While some coaches provided negative or lack of support, some athletic trainers were also perceived as not providing adequate support. Laura and Henry both perceived to have negative experiences with the athletic training staff during their injuries. After being asked to describe the support that she received since her injury, Laura explained

“From the medical side of the school... awful. They basically pressured me into DQing as soon as I could, and they didn’t want to pay for any of my doctor’s

appointments or surgeries or anything like that. They don't really let me go to the doctors that are working for the athletic department anymore, so I have to do all of that on my own which was something that they said I would still get all the services through since the injury occurred here, so that's been really hard like that's also another thing about the isolation from the team. That makes me feel like not a part of the team."

In this situation, Laura explicitly mentions feeling isolated from her team as a result of the lack of tangible support from the athletic training staff. These are her psychological experiences with both social support and isolation. Henry felt that he did not receive adequate informational support from athletic trainers. He explained, "I got some information through the trainers, both my trainer and the head athletic trainer, but it was very limited... a lot of the stuff I learned came from experience... honestly the best resource for me was the internet and reading about other peoples' experiences." From these experiences, it seems that both emotional and tangible support are desired from the athletic training staff, and specifically, in Laura's case, may have influenced her experience with isolation.

Role adjustment occurred in order to keep athletes involved in sport. An interesting finding emerged with role adjustment and its relation to social support received and feelings of being part of the team. The term "role adjustment" was created by the researchers in order to describe the nature of injured athletes filling a different role on the team after the injury occurred and they could no longer participate physically. Four out of the seven respondents expressed some type of role adjustment post-injury. The type of role adjustment was perceived as either positive or negative for the

respondents. Henry, Ashley, Caroline, and Laura all experienced positive role adjustment that led to increased feelings of respect and support. Henry took on a coaching role when he came back from his injury, which led to feelings of being respected and was able to remain active with the team. He explained,

“I was coming back and everything and starting to be involved with the team... I was helping coaching a little bit... {my teammates] showed me a lot of respect... they respected my opinion on stuff and I was captain for the team for a couple of years, so I think they also expected me to take on that role again once I was back and asked my opinion on different things... and the coaches... they would ask for my opinion.”

Ashley also took on what she described as an assistant coach position as well. She stated, “I’m still at practices. I’m still on the mat with them when they’re doing things... I feel like I’ve done it and I’ve graduated, and I’ve come back to help them... I’m not so much having to hold my weight on the team... I’m more kind of helping other people keep up with their skills and motivating them to keep going.”

Caroline and Laura also described having positive role adjustments that related to changing their role to marketing for the team. Caroline explained that she had a better relationship with her coach after she began her marketing role. She commented, “I guess in a way maybe my interaction with my coaches got better because I started doing our marketing stuff, so I had to talk to them more.” Laura switched roles to administrative and marketing stating that one of her goals was to “stay involved with that department. I know since I’m not playing I can be doing other things, so I tried to set up different

things for my team like... volunteer hours at the Boys and Girls Club... different events... more of the administrative side like I've done some marketing for the team.”

Although Laura had some positive role adjustment, she also experienced negative role adjustment as well in which she wanted to take on more of a coaching role but did not receive the support that she wished. She explained,

“One thing that I told my coach when I DQ'd was I still want to be part of the team... I don't ever want to feel like you guys don't want me there and he was like 'we would never do that to you...' but as soon as I DQ'd he didn't hold up to his end of the deal... I asked if I could- not be a coach- but take a little bit more control and teach some stuff... he was all for it when I first DQ'd and then as soon as I started trying to help... he told them not to listen to me.”

From these experiences, it seems that role adjustment, whether it was perceived as positive or negative, influenced the perception of support and recovery for these student-athletes.

CHAPTER 4

DISCUSSION

The present study explored the perceived experience of isolation in collegiate student-athletes that had endured a season or career ending injury, as well as the interaction between isolation and athletic identity, as well as isolation and social support received. Overall, athletes conceptualized and experienced isolation differently; thus, isolation was a unique experience, but was often reported to have an early onset when experienced following the injury. Further, the present study was unable to make connections between the interaction of isolation and social support nor isolation and athletic identity. However, there were interesting findings related to social support regarding its amount and the stakeholders involved in providing the support. Additionally, athletic identity may not have been clearly understood by respondents, and therefore there were no themes related to athletic identity. However, an interesting theme emerged during the questions asked about athletic identity, which was conceptualized by the researchers as role adjustment.

The student-athletes interviewed experienced unique situations with regards to their type of injury, recovery timeline, and dynamics within their respective team. Thus, the way isolation was conceptualized and the experiences each had regarding isolation were deemed unique relative to one another. In the manner that they perceived isolation, all participants reported feeling isolated, which is not surprising given previous literature finding that isolation is often present following a season or career ending injury (Bianco, 2001; Gould et al., 1997; Madrigal & Gill, 2014). The current study extends previous work in this area by having identified that isolation may occur early after injury diagnosis

and/or surgery, whereas previous literature had not identified exactly when isolation occurred during the rehabilitation process. Isolation was not defined for the participants. However, from the information gained, the researchers were able to begin conceptualization of this construct. Thus, isolation in this population can be defined as, “a feeling that results from social and/or physical removal from team or team activities following the onset of an injury.” Physical isolation and removal was defined by the researchers as feelings of isolation as a result from being in a different location or having physical differences in accordance to the rest of the team. Further, social isolation and removal was defined by the researchers as feelings of isolation as a result from missing social interactions with the team. Although we were able to create a definition for isolation, we were unable to find a relationship between isolation and social support.

No association between isolation and social support was able to be made as the information gathered was not adequate to make a connection between the two. Further, it was not clear nor consistent what types of support or which stakeholders providing support could reduce the amount of isolation experienced after their injury. However, coaches and athletic trainers may play a role providing support and keeping injured student-athletes involved in practice and team activities, as is consistent with previous literature (Bejar et al., 2017; Podlog & Dionigi, 2010). The current study demonstrated that although all of the participants reported an extensive amount of teammate support, particularly emotional and tangible support, many of the participants still perceived some type of conceptualized isolation from their team or chose to isolate themselves from their team. Further, participants reported many different stakeholders as sources of the social support received other than teammates and coaches. These stakeholders included family,

friends outside of the team, other athletes on campus, significant others, and mental performance consultants. The respondents also related the experience of isolation to their role adjustments within the team.

An accidental finding emerged that role adjustment occurred in many respondents post injury. The term “role adjustment” was created by the researchers in order to describe the nature of injured athletes filling a different role on the team after the injury occurred and they could no longer participate physically. Similar adjustment has been studied in injured populations where re-socialization was studied as an adjustment to injury (Chan, Lee, & Lieh-Mak, 2000), which may be similar to role adjustment in the case of an injured athlete. In the case of the current study, role adjustment often kept the participants just as involved with the team as they had been prior to injury. Many of the athletes filled a coaching and/or marketing role after their injury, which kept them involved with the team. Although there is much literature that discusses role exit as far as student-athletes transitioning between schools, or from playing sport to no longer being involved in sport (Helms & Moiseichik, 2018; Kidd et al., 2018), there is no research to date that discusses an adjustment in role while keeping involved with the same team after a season or career ending injury.

Practical Implications

The current study provided several practical implications. First, in line with previous literature, athletic trainers and coaches should attempt to keep athletes involved with the team in a meaningful way while they are rehabilitating from an injury (Bejar et al., 2017; Podlog & Dionigi, 2010). Additionally, coaches in particular can aid in providing social support to athlete’s experiencing injury (Bejar et al., 2017; Park, 2000).

Athletes in this study varied in the amount of support provided from athletic trainers and coaches, however, all of the respondents found support from these stakeholders to be important for their wellbeing. Our recommendations to athletic trainers would be to involve other stakeholders in making accommodations for athletes in order for them to feel more involved during practice and with the team. Further, athletic trainers may be in a good position to advocate for an athlete's participation in as much of practice as possible as they are making progress in their rehab. Additionally, sport psychologists and mental performance consultants are not only in a good position to provide support for the student-athlete, but also to educate teams and coaches about the injury process and how they can provide support for injured athletes and teammates using injury response models such as that from Weise-Bjornstal (1998) or Tunick and colleagues (2002). Further, as isolation was identified by participants as being early onset, social support stakeholders, including sport psychologists and mental performance consultants, may want to reach out to athletes near the beginning of their injury diagnosis in order to provide adequate support.

Finally, sport psychologists and mental performance consultants are not the only ones that can benefit from the knowledge gained from the current study. It seems that all stakeholders in the student-athlete's injury process have the potential to play a role. A couple of athletes that worked with mental performance consultants mentioned the support to be beneficial to recovery however, there were many others mentioned as having an impact on the adequacy of the support received. As mentioned previously, sport psychologists and mental performance consultants should provide support for these

athletes but should also help the athlete become an advocate for finding the support that they need, as well as educating others on the injury response process.

Limitations and Future Directions

This study was important as it has initiated an exploration of the experiences of isolation among athletes coping with a severe career or season-ending injury. Thus, the results of this study may be used for future work in continuing to conceptualize isolation as a construct within sport injury settings. That said, there were limitations of the current study that should be acknowledged, which lead to future research in the area. First, participants in the present study represented only one group of athletes that experienced specific types of sport-related injury, season and career ending injuries. Future research should extend the exploration of isolation among athletes within different situations, such as injury that is more minor, or non-injury related situations. The reasoning behind only including this population in the current study was that isolation had been mentioned in studies focusing on this population but had not been the focal point of the research (Gould et al., 1997; Ruddock-Hudson et al., 2012). However, further research investigating isolation in different populations may show interesting findings in which isolation may not be limited to this population. In order to conceptualize this construct, it is important to begin to understand its role in many different settings. Another limitation was that three of the seven participants were recruited from the same team. While each of these participants had a unique experience, they did participate in a program with the same team dynamic; therefore, these participants may have had similar experiences with isolation, social support, and role adjustment. However, with each of the other participants on different teams reporting similar experiences with the constructs, the

researchers did not find this to be a major issue within the study. Additionally, it should be noted that recall bias may have been a factor in the current study, as three of the participants were a year or more out from the onset of their career ending injury. Recall bias is a common limitation in retrospective designs as these designs ask participants to recall information from the past (Kopeck & Esdaile, 1990). Future research should aim to recruit participants that are less than a year from onset of injury to avoid recall bias. Additionally, future research in this area should recruit athletes that may no longer participate in sport in order to explore isolation in this population as participants in the present study were still active members of their respective teams. Further, saturation may not have occurred in the current study. The current study was limited to a very specific group of injured athletes, therefore, the availability of athletes that fit these particular criteria was limited. If there were more respondents in the study, there may have been additional findings within the current study, as there were many different experiences of isolation and social support. Future research should take more time in data collection period and recruit from a larger population in order to recruit a greater number of participants and possibly reach saturation.

CHAPTER 5

REVIEW OF LITERATURE

Introduction

First, the review of literature will address collegiate sport participation and the prevalence of injury, specifically season ending and career ending injuries. Next, different sport injury models will be presented and discussed. One model that will not be discussed is the Anderson & Williams (1988) model, due to the focus being primarily antecedents to injury, rather than post-injury experience. However, the review of literature will provide an in-depth overview of the Weise-Bjornstal (1998) model, as this is a comprehensive model that will be used in the current study. Next, isolation will be discussed as a psychological response to injury both as a stress response and a coping mechanism. Finally, athletic identity and social support will be addressed according to how they relate to injury, and specifically how they relate to isolation as a psychological response to injury.

Epidemiology

Injury. Each year, over 472,000 and 65,000 athletes participate in National Collegiate Athletic Association (NCAA) and National Association of Intercollegiate Athletics (NAIA) athletics, respectively (NAIA, 2018; NCAA, 2014). Participation in sport can be a positive experience for many athletes. However, as participation rates increase, the likelihood of negative sport-related experiences, such as injury, also increases.

Injury is commonplace within collegiate athletics and has been defined as when an athlete is forced to miss at least one day of competition or practice (NCAA, 2017). For

children and young adults, sport related injuries result in three million emergency room visits each year, resulting in 30,000 hospitalizations (Covassin, 2012; Madrigal & Gill, 2014). Additionally, in the 2003-2004 season, about 15,100 injuries were reported to NCAA (NATA, 2007) through the Injury Surveillance Program (ISP), in which only NCAA institutions that have agreed to participate in the program report injuries (Hootman, Dick, & Agel, 2007). Because this is a voluntary program, this number is likely to be underreported. Further, although statistic is dated, it has been shown that injury rates have remained relatively stable over the past 16 years (Hootman et al., 2007). This suggests that approximately 23% of NCAA student-athletes experience injury each year.

Season-ending and career-ending injury. Type of injuries may range from mild to severe and vary regarding time of recovery and modalities utilized during the rehabilitation process. Indeed, with variability associated with type and severity of injury, many athletes may experience more serious injuries that result in longer periods of time lost, as seen with season-ending injuries, or a permanent time lost, such as with a career ending injury. Season ending injuries have typically been defined as an athlete being unable to compete in the remainder of the competitive season following injury. For example, in a study conducted on elite skiers with season ending injuries, season ending injury was defined as “one that prevented a skier from completing a ski racing season and kept him or her off skis for at least three months” (Gould, Udry, Bridges, & Beck, 1997a, p. 363). Common examples of season ending injuries include anterior cruciate ligament (ACL) tears (Vauhnik et al., 2011), concussions, medial collateral ligament (MCL) sprains and tears, back injuries, among others (Gould et al., 1997a; Gould et al., 1997 b;

Gould et al., 1997c; Tirabassi et al., 2016). Contrastingly, career ending injuries result in an athlete being unable to competitively compete in their sport for the rest of their lifetime. These injuries vary and can depend on the sport being played. For example, those in contact or collision sports, such as football and hockey, are more likely to experience these types of injuries (Hootman et al., 2007). Examples of career ending injuries include Posterior Cruciate Ligament (PCL) injuries (Johnson, 2009), spinal injuries, and head injuries. Repeated injuries can also result in the end of an athlete's career. For example, if an athlete has had repeated ACL tears, they may be unable to ever return to competition. In a study conducted in high school athletics in the United States, an average of 200 high schools reported 59,862 total injuries over the course of 8 academic years. Of those injuries, 3,599 were season-ending or career-ending (Tirabassi et al., 2016). Additionally, in a study conducted by Vauhnik et al. (2011), 12 of 585 Slovenian female athletes that were studied sustained an ACL injury. Season ending and career ending injuries are likely to occur at the collegiate level as well. Over the period of 2004-2009, 3,569 overuse injuries across collegiate athletics were reported. Of those, 5.9% were season-ending (Roos et al., 2015). Additionally, of the highest reported injuries in NCAA, MCL sprains and concussions result in the highest percentage of season ending injuries, with MCL sprains having the highest average time loss (Roos et al., 2015). For football specifically, a study was conducted examining 55 NCAA schools across all three divisions requiring schools to report all injuries. The reports indicated 3,459 football injuries had occurred. Of those injuries, 7.3% were season ending or career ending (Shankar, Fields, Collins, Dick, & Comstock, 2007). As the seriousness of the injury increases, so do both physical and psychological consequences.

Physical versus psychological aspects of injury. Once an injury occurs, there are immediately physical and psychological concerns that need to be attended to. Physical manifestations and consequences of injury are oftentimes more observable, as overt signs and symptoms are present for fractures, sprains, strains, and other injuries. Extensive research has examined the physical aspects of injury and strategies to improve the rehabilitation outcomes (Brewer, 1999; Ruddock-Hudson, O'Halloran, & Murphy, 2011; Scherzer et al., 2001). However, psychological consequences have also been consistently identified as being present following an injury (Arvinen-Barrow, Hurley, & Ruiz, 2017; Bejar, Fisher, Nam, & Larson, 2017; Brewer, 2007; Gould et al., 1997a; Ruddock-Hudson, O'Halloran, & Murphy, 2012; Ruddock-Hudson, O'Halloran, & Murphy, 2014; Wiese-Bjornstal, Smith, Shaffer, & Morrey, 1998). These symptoms or experiences may not present as obvious as their physical counterparts, as professionals initially focus on treating the symptoms related to physical pain. Although important, emotional and psychological distress following injury may not receive as much attention by health professionals. Seminal articles such as Little (1969) and Bramwell, Masuda, Wagner, and Holmes (1975) were the first to explore the topic of psychology of injury. Since then, theories and models have emerged that seek to explain the psychology of injury.

Psychological response to injury theories. There are many theories and models that attempt to explain the psychology of injury. The focus of this section will strictly be of those models that are centered on the response and adjustment to injury, since this is the focus of the current study. The first of these models is one devised by Tunick, Etzel, and Leard (1991), which is based on Kubler-Ross (1969) theory of grief reaction

response. The stages of grief model include denial, anger, bargaining, depression, and acceptance. It is important to note that Kubler-Ross (1969) also explained that this is not a linear model. Some stages may take longer than others, and sometimes an individual might get stuck in one stage. The sport-specific model follows a similar grief response reaction. The stages of this model include shock, realization, mourning, acknowledgement, and coping (Tunick et al., 1991). Again, this model is not linear, and some athletes may take longer to pass through some stages than others.

Subsequent development of a cognitive appraisal model was devised by Brewer (1994). This model explains that personal and situational factors will influence a cognitive appraisal of the situation. From there, the athlete takes that appraisal and elicits an emotional response, which will in turn influence their behavioral response to the situation.

In addition, Gould, Udry, Bridges, and Beck (1997) conducted a study on the psychological adjustment to sport injury. They found that athletes experienced psychological stress including loss of dreams, fear of re-injury, reminders of injury, and worries about readiness to return to play. Additionally, athletes experienced social concerns including isolation and distance from coaches and teammates. The model theorized that successful recovery correlated to the amount of social support, attention, and empathy received from coaches and teammates.

Psychology of Rehabilitation

After an injury occurs, athletes can endure emotional and psychological distress, alongside the physical pain. A successful rehabilitation may include strategies to aide athletes in learning to adjust to these psychological consequences over the course of

recovery and rehabilitation (Tracey, 2003). It can be very difficult for an athlete to go from high intensity training while preparing for a season or competition, to then sustaining an injury and attending rehabilitation, where an athlete often times has to start slow with the basics (Teichmann et al., 2016; Tracey, 2003;). This can be a lengthy process that is oftentimes frustrating for an injured athlete (Kraemer, Denegar, & Flanagan, 2009). Gould et al. (1997) found that athletes felt as if they had a difficult time being patient in rehabilitation. In addition, since they were rehabilitating using less weight than they had while training when they were healthy, they felt as if they were “not trying hard enough” or were “pathetic” (Gould et al., 1997). Although rehabilitation is a difficult process for many athletes, the literature has shown that taking responsibility for and accepting the injury and recovery process is an important part of coping more effectively with the injury and rehabilitation process (Bianco et al., 1999; Brewer, Linder, & Phelps, 1995; Gould et al., 1997; Tracey, 2003; Udry, 1997). Further, successful recovery is a product of psychological and physiological rehabilitation.

Although rehabilitation is a difficult process for many athletes, the literature has shown that taking responsibility for and accepting the injury and recovery process is an important part of an effective coping response to injury (Bianco et al., 1999; Brewer, Linder, & Phelps, 1995; Gould et al., 1997a; Tracey, 2003; Udry, 1997). There have been many models that attempt to explain psychological responses to injury and/or rehabilitation; however, one model created by Weise-Bjornstal (1998) is a comprehensive and widely used model that explains both the psychological response to injury and rehabilitation.

Comprehensive Model of the Psychology of Injury and Rehabilitation

The most widely used model to date is the Integrated Model of Response to Sport Injury created by Weise-Bjornstal, Smith, Shaffer, & Morrey (1998). This model provides a detailed explanation of pre-injury factors that induce a stress response. From there, injury may or may not occur. If injury occurs, the model provides explanations that include both personal factors and situation factors that induce a cognitive appraisal of the situation. Personal factors include both the injury (e.g. type, history severity, etc.) and individual differences, which include psychological, demographic, and physical. The psychological difference includes athletic identity, among other differences. On the other hand, situational factors include sport, social, and environmental factors. Social factors include teammate and coach influences, which is where feeling of isolation may arise. Then the cognitive appraisal of the situation occurs. Cognitive appraisal included things such as goal adjustment, self-perception, sense of loss or relief, and cognitive coping. Similar to Brewer's model, this model explains that the cognitive appraisal will elicit an emotional response (e.g. fear of unknown, tension, anger, depression, frustration, grief, emotional coping), which in turn elicits a behavioral response (e.g. adherence to rehabilitation, use or disuse of social support, risk taking behaviors, efforts, intensity, behavioral coping). It is different, however, in that this is a cyclical process in which the behavioral response will then elicit a cognitive appraisal of the situation, and then the cycle starts over again. This cycle will influence both the psychological and physical recovery from the injury. This is the model that will be referred to in the current study because it is widely used in the literature, and it captures many aspects of the models and theories discussed previously. In addition, Weise-Bjornstal et al. (1998) presents isolation, athletic identity, and social support as being related to one another.

Isolation

While isolation has been identified as a psychological response to injury, it has not been a focal point of the extant literature regarding psychological responses to injury. Isolation is also sometimes referred to as alienation in early literature. Finifter (1972, p.11) defines alienation as “a perceived disjuncture from any set of values held by the individual.” Isolation is not explicitly defined in previous literature, but is often described in previous qualitative literature as feeling cut off from the team, coach, and familiar routines (Gould et al., 1997). According to this definition of isolation, injury itself is isolating because an individual is unable to participate in or perform the same tasks as they were able to before being injured (Thomas & Rintala, 1989). As stated above, isolation has been identified as being a psychological response to sport injury. Therefore, feeling removed from the team as a social consequence to being injured can elicit a stress response for the athlete.

The literature has shown that isolation often occurs as a stress response to injury. In other words, isolation occurs after the onset of an injury, and is a cause of stress to the injured athlete. One explanation as to why isolation may occur is that an injured athlete is a reminder that injury is a risk to every athlete, so others may want to distance themselves from the idea that it may happen to them (Thomas & Rintala, 1989). In addition, in a study conducted by Bejar, Fisher, Nam, & Larsen (2017), feelings of isolation occurred in professional Korean athletes, as well as feelings that teammates and coaches were disappointed in the athlete for being unable to participate. It was concluded that feelings of isolation may have resulted from the perception that coaches and teammates were angry with the athlete therefore, the athlete did not feel like they did not belong anymore,

thus feeling isolated. The literature has not looked into the “why” as much as the “when” isolation occurs.

Literature has shown that isolation may occur after a major surgery (Shapiro et al., 2017; Udry, 1997). In a study conducted by Evans et al. (2012), athletes reported feeling isolation both at the onset of injury and during the rehabilitation process. Similarly, many have found that athletes feel that rehabilitation is repetitive and isolating (Madrigal & Gill, 2014; Ruddock-Hudson et al., 2012; Ruddock-Hudson et al., 2014). Furthermore, as the seriousness of injury increased, the issue of isolation also increased during the rehabilitation process (Ruddock-Hudson et al., 2012; Ruddock-Hudson et al., 2014). To support this, Gould et al. (1997) conducted a study on elite skiers that had sustained season-ending injuries. Of the skiers, 66.6% experienced a lack of attention or isolation. In addition, 81% experienced social concerns in general.

Although isolation has been noted as a stress response in many studies, some actually show that isolation is a coping mechanism used by injured athletes. Injured athletes may desire to be isolated from their sport as a way to sort things out, concentrate on rehabilitation, and/or avoid uncomfortable situations where they feel like they have to act as if they are feeling okay in front of their teammates and coaches (Thomas & Rintala, 1989). In a study conducted by Gould et al. (1997), athletes isolated themselves from their team and sport in order to cope with their injury.

Measures of isolation. As stated previously, isolation has mostly been identified as a psychological response to injury in qualitative research. However, the Psychological Response to Sport Injury Inventory (PRSII) developed by Evans et al. (2008) has recently been redeveloped. The PRSII is intended to be used to assess an athlete’s psychological

response to injury after the onset of the injury. The subscales are psychological responses to injury that have been identified by the literature including: devastation, dispirited, reorganization, feeling cheated, restlessness, and isolation. The isolation subscale will be used to develop interview questions for the current qualitative study.

Athletic Identity

Athletes may vary in the amount of importance they place on their identity as an athlete. Athletic identity has been defined as the “degree to which an individual defines oneself in the role of an athlete” (Brewer, Van Raalte, & Linder, 1993, p.237). An athlete with high athletic identity may find participation in sport to be very important to them and may even have a difficult time identifying as anything other than an athlete (Brewer & Peptitpas, 2017). Once in sport, an athlete may go through identity foreclosure, in which they commit to the role of an athlete, and separate themselves from commitment to other areas of life (Brewer & Peptitpas, 2017), which may indicated high athletic identity. Contrastingly, an individual lower in athletic identity may find participation in sport to be important but may not be as important as participation in school or other activities. Athletes that engage in identity foreclosure may experience many negative consequences or engage in negative behaviors such as consumption of more alcohol (Murray, 2001), use of performance enhancing drugs (Hale & Waalkes, 1994; Smith & Hale, 1997), failure to explore career options (Brewer et al., 1993), and increased risk of burnout (Coakley, 1992).

Unfortunately, research has shown that those higher in athletic identity have a more difficult time transitioning into a role that does not allow for the same nature of athletic participation an athlete is accustomed to (Giannone, Haney, Kealy, &

Ogrodniczuk, 2017), or participation at all as oftentimes occurring with an injury (Brewer et al., 1993).

Athletic identity relating to injury. One situation where an athlete may go from participating in their sport to not participating anymore, or for a period of time, is injury. Research has shown that athletic identity influences how an individual responds to injury (Wiese-Bjornstal et al., 1998). For example, individuals higher in athletic identity respond more negatively to injury than those lower in athletic identity (Baranoff, Hanrahan, & Connor, 2015; Brewer et al., 1993; Brewer, 1994; Brewer et al., 2010; Evans & Hardy, 1995; Manuel et al., 2002). In particular, research shows that ACL surgery is related to loss of athletic identity (Shapiro et al., 2017). In addition to responding negatively to injury, athletes higher in athletic identity may find themselves injured more frequently or more severely (McKay, Campbell, Meeuwisse, & Emery, 2013; Podlog et al., 2013; Weinburg, Vernau, & Horn, 2013, 63, 64).

Athletes high in athletic identity, or those who experience identity foreclosure through sport, have been shown to be more likely to play through pain (Weinburg et al., 2013). While these athletes have the option to sit out and recover, they are likely to play through and become injured (McKay et al., 2013). Once in rehabilitation for injury, these athletes are likely to engage in rehabilitation overadherence, where they may be at risk to become more severely injured (Podlog et al., 2013).

Athletic identity relating to isolation. When examining athletic identity in relation to isolation, it appears that both loss of identity and breakdowns in relationships with teammates influences recovery. Madrigal & Gill (2014) conducted a mixed methods study to explore coping patterns used by injured athletes. They looked at stressors,

responses, and coping mechanisms used. They found that a major stressor for one of the athletes was their perception of their inability to help the team, possibly in relation to the isolation that the athlete may be experiencing. In the beginning of the rehabilitation process, the athlete reported feeling isolated, but as the rehabilitation progressed, the athlete was able to spend more time with her team. It was also found that athletes across the board reported feeling the need to prove commitment and importance to their team throughout recovery (Madrigal & Gill, 2014). Additionally, in a study conducted by Mankand et al., (2009), athletes experienced both loss of identity and breakdowns in relationships with teammates. However, teammates do have the ability to provide social support that may help facilitate recovery. In addition to athletic identity, social support has been identified as a factor that influences how an athlete copes with an injury (Clement & Shannon, 2011; Gould et al., 1997; Madrigal & Gill, 2014; Rees et al., 2010; Yang et al., 2010) and may be associated with isolation (Bejar et al., 2017; Evans et al., 2012; Gould et al., 1997; Mitchell, 2011; Mitchell et al., 2014; Tracey, 2003).

Social Support

Social support has been defined as, “an exchange of resources between two individuals perceived by the provider or the recipient to be intended to enhance the well-being of the recipient” (Shumaker & Brownwell, 1984, p. 11). This definition focuses on the act of receiving social support. However, it has also been defined according to the perception of the support received. Yang et al. (2014, p. 373) defines social support as an “athletes’ appraisal of the support that might be available to the, from their social network and how satisfied they were with that support.” In the literature, it is perceived support that has been linked to positive outcomes such as self-confidence (Rees &

Freeman, 2007), peak performance (Freeman & Rees, 2008), and other performance-related factors (Freeman & Rees, 2010; Rees & Hardy, 2004).

Types of social support. Social support is commonly experienced or expressed as emotional support. For example, talking to an athlete and asking them how they have been doing would be considered emotional support. However, this is just one of many different types of social support that can be provided. The types of support include: emotional, tangible, esteem, and informational. Emotional support is defined as the provision of empathy, love, trust, and caring (Glanz, Rimer, & Viswanath, 2008). Tangible support is defined as the provision of instrumental aid and services that directly assist a person in need (Glanz et al., 2008). Tangible support could be driving an injured athlete to rehabilitation if they cannot drive themselves. Esteem support is defined as the provision of information that is useful for self-evaluation purposes (Glanz et al., 2008). An example of esteem support would be helping to rebuild an athlete's sense of confidence after injury. Finally, informational support is defined as the provision of advice, suggestions, and information that a person can use to address problems (Glanz et al., 2008). An example of informational support would be explaining to the athlete what they can expect from rehabilitation. The literature shows that athletes report a strong need for emotional support at the beginning of rehabilitation (Fernandes et al., 2014). In addition, it has been shown that informational support is often helpful at the end of recovery towards return-to-play (Fernandes et al., 2014).

Social support relating to injury. Social support has the potential to help athletes cope with injury, reduce negative stress responses, and facilitate recovery (Corbillon, 2008; Clement & Shannon, 2011; Madrigal & Gill, 2014; Yang et al., 2010).

While rehabilitation is occurring, athletes have not only reported being more satisfied with social support provided by athletic trainers than by teammates and coaches (Clement & Shannon, 2011; Yang et al., 2010), but social support provided by this staff has been shown to facilitate recovery (Gould et al., 1997). As rehabilitation progresses positively, athletes receive more social support from their team (Madrigal & Gill, 2014), which is preferred when it is emotional support that is being provided (Corbillion, 2008). Different types of social support, such as informational support, are preferred from the coaching staff (Corbillion, 2008). Regardless of who is providing the support, research has demonstrated that high levels of social support are associated with low levels of devastation and feeling dispirited as psychological responses to injury (Rees et al., 2010). Social support may also be linked to isolation, both as a stress response and coping strategy (Bejar et al., 2017; Evans et al., 2012; Gould et al., 1997; Mitchell, 2011; Mitchell et al., 2014; Tracey, 2003).

Social support relating to isolation. The literature suggests that there are interactions between isolation and social support, both as a stress response (Evans et al., 2012; Mitchell, 2011) and a coping strategy (Gould et al., 1997). In particular, low levels of esteem support are associated with increased levels of restlessness and isolation (Mitchell et al., 2014). Overall, social support is recognized by injured athletes as being important to recovery. However, athletes report having difficulties attending practice because of the emotional responses it elicited such as loneliness, sadness, confusion, and frustration (Tracey, 2003). Further, athletes often feel the need to turn away from the team for social support, to friends and family, due to feeling isolated from the team (Bejar et al., 2017). Gould and colleagues (1997) conducted a seminal study on the

psychological adjustment to sport injury. The athletes reported experiencing social concerns including isolation and distance from coaches and teammates. The authors theorized that successful injury recovery was associated with the amount of social support, attention, and empathy received from coaches and teammates.

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APPENDIX A
CRITERION VARIABLES

Inclusion

- Student-athlete at a Division I NCAA member institution
- Over the age of 17
- Sustained a season-ending or career-ending injury

Exclusion

- Athletes who the researcher is working with as a mental skills consultant (due to multiple role relationship)
- Athletes that have returned to play following an injury

APPENDIX B

SEMI-STRUCTURED INTERVIEW

Semi-Structured Interview Questions*Demographics**Structured Questions*

How old are you?

How do you identify racially?

What year are you in school?

What sport do you play?

What is your injury diagnosis?

How much time have you currently spent away from your sport?

Is your injury season ending or career ending?

If season ending, what is your estimated date to return to play?

*Isolation**Structured Questions*

What has your experience with your teammates and coaches been like since your injury?

In your perception, how have your teammates/coaches reacted to your injury?

To what extent do you feel isolated from your team?

Probing Questions

- What have your social interactions with your teammates/coaches been like since your injury?
- How have you felt about interacting with your teammates/coaches since your injury?

Athletic Identity

Structured Question

How would you say your athletic identity has been impacted since your injury? Athletic identity is typically defined as “the degree to which an individual defines oneself within their role as an athlete.”

Probing Questions

- How do you define yourself?
- To what degree do you consider yourself a student athlete?
- What goals have you set for yourself as a student athlete?
- How do you feel about not being able to participate in sport right now?

Social Support

Structured Question

How would you describe the support you have received since your injury?

Probing Questions

- Who listens to you when you need to talk about what is going on?
- Who gives you information to help you understand the situation that you are in?
- Who do you turn to for suggestions about how to handle a situation?
- Who takes you to doctors appointments?
- (if injury requires crutches/inability to drive) Who drives you to practice, weights, and team activities?
- Who do you spend enjoyable time with?

- To what extent have your teammates/coaches/athletic trainers/family supported you throughout your injury?
- Is there anyone else that provides support for you through this time?