

Journal of Issues in **Intercollegiate Athletics**

Social Support Provided to Injured Student-Athletes

Alexis L. de Groot
Columbia University

Anthony G. Weaver
Elon University

Sydney N. Brown
Elon University

Eric E. Hall
Elon University

Injury to student-athletes at a competitive level is often unavoidable. Although student-athletes receive the necessary care to help rehabilitate the physical injury, many studies have found the importance of social support to the student-athlete's overall well-being following an injury. The purpose of this study is to better understand injured student-athletes' perceptions of social support and whether additional resources during their recovery process would enhance their overall well-being. Data were collected from semi-structured interviews with collegiate student-athletes that have suffered a severe injury. Findings indicate that student-athletes, due to their injury, are forced into a new role on their team. Many of the participants struggled with their new role, which led to a difficult injury recovery process requiring more social support. Social support from those around them seemed to diminish as the recovery process continued. Participants had an expectation that coaches, trainers, administration and teammates should be more aware of the need for support. Finally, student-athletes had several recommendations to improve the social support provided during the recovery process. Higher education administrators, staff, and coaches can use the results and specific recommendations to improve the formal and informal support provided to severely injured student-athletes.

Recently the National Collegiate Athletic Association (NCAA), a governing body for college athletics in the United States, highlighted the importance of providing the necessary resources available to help support the mental recovery of an injured student-athlete (Putukian, 2014). Approximately 40% to 50% of college student-athletes will sustain at least one athletic injury in their time as an athlete, forcing them to be sidelined for a period of time (Yang, Peek-Asa, Corlette, Cheng, Foster & Albright, 2007). Typically, an athlete's recovery process emphasizes the physical rehabilitation (Kraemer, Denegar & Flanagan, 2009; Lam, Snyder & Valovich-McLeod, 2015; Quinn & Fallon 2010). Yet, experts have stressed that the mental health is just as important for an athlete's recovery and performance (Jordan, 2016; Putukian, 2015; Thompson & Sherman, 2007). One way to improve student-athletes' mental health is through the provision of social support (Gould, Bridges, Udry & Beck, 1997; Hardy & Grace, 1993; Hardy, Richman, & Rosenfeld, 1991; Judge, Beller, Blom, Lee, Harris, Turk, McAtee, & Johnson, 2012; Richman, Rosenfeld and Hardy, 1993; Wiese-Bjornstal, Smith, Shaeffer, & Morrey, 1998).

Social support was defined by Shumaker & Brownell (1984) 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" (p. 21). According to Richman, Rosenfeld and Hardy (1993), there are eight types of social support that could be provided to an individual: listening support, emotional support, emotional challenge support, reality confirmation support, task appreciation support, task challenge support, tangible support, and personal assistance. In a study examining athletes' social support, Yang, Peek-Asa, Lowe, Heiden & Foster (2010) provided a more precise definition which states that social support is "an athlete's appraisal of the support that might be available to them from their social network and how satisfied they were with that support" (p. 374).

Within the literature that exists on social support, many of the studies' participants include professional, semi-professional, recreational and/or high school athletes (Evans, Wadey, Hanton & Mitchell, 2012; Macchi & Crossman, 1996; Mitchell, Evans, Rees & Hardy, 2014), yet minimal studies have exclusively examined the student-athlete across gender, injury type, length of recovery from injury, division and sport (Clement & Shannon, 2011). Understanding that injury to a collegiate student-athlete can be a devastating experience, continued research needs to examine the injury recovery process and pay specific attention to the emotional side of an injury (Appaneal, Levine, Perna, & Roh, 2009; Evans, et al., 2012). Specifically, how student-athletes are supported by their institution, coaches, and peers needs further evaluation. Thus, the research question being addressed in this paper is: What are injured collegiate student-athletes' perceptions of social support during their recovery process?

Literature review

A commonly used model to investigate emotional and behavioral responses to sport injury is the integrated model of response to injury proposed by Wiese-Bjornstal, et al., (1998). In this model, numerous personal and situational factors are believed to influence cognitive appraisal, which in turn plays a role in emotional and behavioral responses and recovery outcomes. Social support is one important situational factor that may modify the injured student-

athlete's cognitive appraisal and subsequent behavioral and emotional responses. Additionally, the identity of the student-athlete is a personal factor that impacts recovery outcomes. Thus, taking into consideration the student-athlete's identity is integral to understanding how they respond to the recovery process, particularly their perception of social support within the group.

Tajfel and Turner's (1979) social identity theory explains that part of a person's concept of self comes from the groups to which that person belongs. For an individual that participates in college athletics, their athletic identity can outweigh all of their other identities (Adler & Adler, 1991; Horton & Mack, 2000; Tasiemski, Kennedy, Gardner & Blaikley, 2004). Athletic identity has been defined as the extent to which an individual relates to the role of an athlete and looks to others for acknowledgment of that role (Brewer, 1993). Student-athletes who have gained recognition for their success in athletics focus their self-identity on the role of an athlete (Rotella & Heyman, 1993). For an individual whose prominent identity is athletic centric, an injury may disrupt that identity and lead to negative emotional and psychological reactions, (Brewer, Cornelius, Stephan, & Van Raalte, 2010; Green & Weinberg, 2001). Thus, aspects of the integrated model of response to injury and social identity theory serve as an appropriate foundation for further exploration of how perceived social support plays a role in an injured student-athlete's process of recovery.

Importance of Social Support for the Athlete

Several studies have found the importance of social support to the athlete's overall well-being (Gould, Bridges, Udry & Beck, 1997; Hardy & Grace, 1993; Hardy, Richman & Rosenfeld, 1991; Judge, Beller, Blom, Lee, Harris, Turk, McAtee, & Johnson, 2012; Lentz, Kerins, & Smith, 2018; Rees, Mitchell, Evans, & Hardy, 2010; Udry, 1997; Yang, et al., 2010). Social support can be measured by the number or quality of people an individual can rely on during times of stress (Sarason, Levine, Basham & Sarason, 1983). The effect of injury to an athlete can cause a great deal of stress (Evans et al., 2012; Podlog & Eklund, 2010; Tracey, 2003). Smith, Smoll, & Ptacek (1990) found that athletes with a more serious injury experienced higher levels of stressors including increased tension, depression, anger and decreased vigor. Injured athletes tend to experience some lack of progress in rehabilitation, performing at pre-injury levels, incapacitation, loss of confidence, loneliness, and risk of re-injury (Evans, et al., 2012; Wadey, Evans, Hanton & Neil, 2011). Identifying the stressors of the student-athlete, considering the type of sport an injured student-athlete plays, and determining the severity of the injury, can help determine effective strategies that could be used by coaches and athletic trainers during a student-athlete's recovery (Brewer, 1993; Evans et al., 2012). For example, Podlog and Dionigi (2010) found coaches must be more in touch with the stressors associated with the athlete to provide the appropriate support the athlete needs. In addition to the stress the student-athletes' experience, many tend to feel isolated from their sport and teammates, which can contribute to a loss in athletic identity (Brewer, Cornelius, Stephan, & Van Raalte, 2010; Green & Weinberg, 2001; Mainwaring, 1999).

Gould et al. (1997) found that 70% of female athletes looked for and used social support after suffering from an injury. In addition, participants tended to engage with others who had experienced a similar injury (Johnston & Carroll, 1998). Udry (1997) and Bianco (2001) identified social support as an essential factor in recovering physically from an injury. These findings show that adequate social support may help to decrease stress levels after injury and

increase motivation during rehabilitation (Wiese-Bjornstal, et al., 1998). Social support has also been recognized to decrease the stress related impact of injury (Yang et al., 2010).

Social Support Provided to an Injured Athlete

Throughout the recovery process, injured athletes will receive support from a variety of athletic personnel, including team coaches, strength and conditioning coaches, teammates and athletic trainers. Bianco (2001) found there is an expectation from an injured athlete's perspective to have an adequate level of social support from their coaches in regard to setting realistic performance goals, rebuilding competitive confidence, overcoming fears of re-injury and providing reassurance in one's performance. Corbillon, Crossman & Jamieson (2008) examined 72 Canadian injured athletes, assessing their perceptions with regard to satisfaction, availability, and contribution provided by their coaches and teammates. The study found that injured athletes felt their coaches provided them with the most social support through task challenge support, a form of support that challenges, "the way the recipient thinks about his or her activity to motivate him or her and increase his or her involvement" (p. 94). Within this study, participants who were starters received more task appreciation support by their coaches in comparison to non-starters. This can be attributed to starters having more of an impact on the team's overall success. Not only did the athletes receive different levels of support based on status of the team, but also the athletes who had more severe injuries reported, "less listening, emotional support, reality confirmation and tangible assistance support from the coach" (Corbillon, Crossman & Jamieson, 2008, p. 104). Other studies have shown athletes who reported their coaches' social support as inappropriate and not helpful to their rehabilitation process (Bianco 2001; Robbins & Rosenfeld, 2001; Macchi & Crossman, 1996; Udry, Gould, Bridges, Tuffey, 1997).

Robbins and Rosenfeld (2001) examined the perception of social support from 35 student-athletes' at one Division I institution and found participants were most satisfied with the social support provided from their athletic trainers rather than their coaches and assistant coaches. Udry et al. (1997) interviewed 21 skiers and found 67% of participants stated their coaches had a negative influence on their recovery process and described their coaches as "distant, insensitive to the injury, and lacking in the belief of the athlete" (p. 383).

The role of a strength and conditioning coach is to train and discipline the student-athletes, but in recent years the need for strength and conditioning coaches to broaden their scope of practice to provide more of a psychological role in order to support an injured athlete (Judge et al., 2012). For both sport coaches and strength and conditioning coaches, task challenge support seems to appear as the highest level of support provided to injured athletes. 91.5% of injured athletes (participants) reported receiving task challenge as the number one type of social support from strength and conditioning coaches (Judge et al., 2012).

Another important member of an injured student-athlete's social network is his or her teammates. Since teammates are similar in age to the injured student-athlete and may have experienced injury themselves, they are typically very open to sharing their rehabilitation process (Clement & Shannon, 2011). Corbillon, Crossman, and Jamison (2008) found participants reporting their teammates as being more available with emotional support than their coaches. In another study, Gould et al. (1997) found 66.6% of participants identified feelings of isolation after their injury, with participants deeming it more acceptable for teammates to display a lack of support and attention and a higher expectation for support from their coaches.

An athletic trainer is also thought to be one of the most important support systems for the injured athlete due to their continual interactions during the rehabilitation process. Washington-Lofgren and Westerman (2004) found athletic trainers provided social support to injured student-athletes through goal setting and verbal motivation. Although athletic trainers felt they provided their injured athletes with this type of support, the expectations of the athletes did not match what the athletic trainer believed they were providing. In order to ensure an athlete's expectation and coping score matches the actual support provided by an athletic trainer, numerous studies have recommended workshops for athletic trainers which focus on helping athletes cope (Larson, Starkey, & Zaichkowsky, 1996; Washington-Lofgren & Westerman, 2004; Robbins & Rosenfeld, 2001). With that being said, a number of studies which examined injured student-athletes' perception in regard to the eight levels of social support found athletic trainers to provide the highest amount of satisfaction, availability, and contribution (Clement & Shannon, 2011; Robbins & Rosenfeld, 2001).

Although there is a considerable amount of research on the perception of social support provided to injured intercollegiate student-athletes, past research has recommended the need to study student-athletes from a variety of sports and examine the experience of injured student-athletes from both large and small athletic departments (Robbins & Rosenfeld, 2001), at varying divisions of the NCAA (Clement & Shannon, 2011; Malinauskas, 2010; Evans et al., 2012 & Judge et al., 2012) and to explore the types of social support needed for a student-athlete based on if he or she plays on an individual or team sport (Judge et al., 2012). Furthermore, because social support is a complex process, Clement & Shannon (2011) suggested the use of a "qualitative methodology to gain a better understanding of the way social support throughout injury influences recovery, rehabilitation, and reintegration into sport" (p 467).

Thus, the goal of the present study was to better understand injured collegiate student-athletes' perception of social support and whether additional resources during their recovery process would enhance the student-athlete's overall well-being. In order to address some of the gaps, including lack of in-depth research on a diverse sample of severely injured college student-athletes, participants were recruited from a variety of sports, type of injury, NCAA division level, and gender. More specifically, this research question for this project is: What are injured collegiate student-athletes' perceptions of social support during their recovery process?

Methods

Participants

A qualitative study approach was used to collect in-depth information on the perception of social support provided to injured student-athletes. Because of the exploratory nature of this study, a qualitative approach is most appropriate as it allows for open-ended responses (Yin, 2003). Creswell (1998) points out that qualitative studies allow the researcher to delve deep into the field to describe what is happening. Qualitative research contributes to an understanding of the human condition in different contexts and of a perceived situation (Patton, 2002).

The criteria for inclusion in the study included (a) current or former student-athlete and (b) suffered an injury that classified as severe. The National Athletic Training Association (NATA) defines a severe injury as lasting "beyond the 21-day injury period" (Robbins & Rosenfeld, 2001, p. 281). This length of time allowed for greater opportunity for the student-athlete to receive social support throughout the recovery process. All participants in the current

study were forced to miss at least four months of playing or practice time, much longer than the NATA definition of severe.

Data Collection

To find student-athletes for participation in this study, purposive sampling was used initially to identify subjects that were severely injured. As data collection continued, it became evident that the best recruitment strategy was through the connections between severely injured student-athletes. Therefore, snowball sampling was used to gather suitable participants by asking if they knew other student-athletes that had experienced a severe injury (Patton, 2002). Data were collected using semi-structured interviews lasting approximately 45-60 minutes. Prior to the start of the interview, participants were given a consent form to sign. A modified interview guide of the Social Support Survey by Richman et al. (1993) was used to develop questions for the semi-structured interview. The semi-structured interview approach created a natural conversation to occur based on tailored questions for each participant (Creswell, 1998; Yin, 2003). This provided an opportunity for the participant to bring up relevant information about their unique recovery experience.

Student-athletes were also asked demographic information such as the institution they attend, year in school, the sport they play, number of previous major injuries and status on the team (starter or non-starter), as well as, questions related to their experience. Sample questions included¹:

Prior to your injury, what was your perception of the social support within the athletic department?

Did you have a "go to" person to talk to about your injury?

What type of support did you receive from (insert coaches, teammates, administrators, athletic staff members, others)?

Would you have any recommendations about the social support you received after you were injured?

Do you believe more resources are needed in order to improve the overall well-being of an injured student-athlete?

Data Analysis

After interviews were completed, they were transcribed verbatim and analyzed simultaneously while other interviews were being conducted in order to help reshape questions for future interviews and ensure that relevant questions were asked to each participant. Once all

¹ For these questions, interviewers were trained to probe for more detailed responses. Respondents further explained their answers.

the initial data were collected and transcriptions were completed they were sent back to the interview subjects as a form of member checking. Subjects had the opportunity to review the transcription and clarify or edit their answers. Once member checks were completed, content analysis was used to organize data into categories in an effort to uncover themes or ideas (Lincoln & Guba, 1985). Bauer (2000), defines content analysis as the “systematic classification and counting of text units [to] distill a large amount of material into a short description of some of its features” (p.132–33). In a qualitative content analysis, data are presented in words and themes, which makes it possible to draw some interpretation of the results (Patton, 2002).

In the first phase of data analysis, open coding, codes were collected under potential subcategories/subthemes. The initial codes from the open coding process were organized and condensed into broader thematic categories, also known as axial coding. Finally, selective coding, in which concepts were organized into what the research is all about (in this case injured student-athletes’ perceptions of social support), was implemented following the completion of all data collection (Strauss & Corbin, 1998).

A form of investigative triangulation was used throughout all phases of data analysis (Denzin & Lincoln, 1998). A research team of four coded the data independently and then agreed upon the most prominent categories or themes during each phase. After multiple rounds of analysis, the research team identified five prominent themes. Specific interview quotations are used in the results section to help support the themes presented. All steps were completed to reduce known limitations when conducting content analysis (Gratton & Jones, 2004).

Limitations

There were limitations to this study. First, there was a large range in injury occurrence among our participants (still injured at the time of the interview to three years past recovery). While some participants interviewed were still in the rehabilitation process, several had suffered their injury a few years ago. Although major injuries are very memorable to student-athletes, it is possible the athletes forgot about the exact type of social support provided to them by their coaches, athletic trainers and teammates. Using the semi-structured interview guide and reviewing the different types of social support provided in the scale, allowed the researchers to help create conversation about each student-athlete’s individual experiences. This helped each participant reflect back on their recovery period and discuss relevant issues. Second, the number of sports examined was limited. Although we had nine different sports represented (including three multi-sport athletes), there were sports that were not represented. However, the sports chosen provide a wide variety of collegiate student-athlete experiences.

Results

Participants (n=31) in this study were current or former student-athletes (15 Females, 16 Males) who played intercollegiate athletics at the NCAA Division I, Division II or Division III schools across the United States. The athletes played a variety of sports including soccer (men’s & women’s), volleyball, field hockey, football, baseball, wrestling, basketball (men’s & women’s), tennis (men’s) (Table 1). Injury type varied greatly among our participants including torn anterior cruciate ligaments (ACL), concussions, broken bones and herniated disks. The minimum length of recovery was four months and the maximum length of recovery was career ending and ongoing.

Table 1: Demographic Characteristics of Participants

Variables	Categories	N	%
Gender	Male	16	52
	Female	15	48
NCAA Division	Division I	18	58
	Division II	10	32
	Division III	3	10
Sport Played	Soccer	8	26
	Baseball	5	16
	Football	5	16
	Basketball	3	10
	Multi-Sport Athlete	3	10
	Lacrosse	2	6
	Wrestling	2	6
	Field Hockey	1	3
	Tennis	1	3
	Volleyball	1	3

Analyzing the perceptions of injured student-athletes reveals major themes that suggest the impact of the injury goes beyond just the physical rehabilitation (Table 2). These topics emerged as the five major themes from our study: 1. A “new” role, 2. They should know, 3. The longer it gets the worse it gets, 4. Connection to others, and 5. Recommendations to do more.

Table 2: Identified Themes

Theme	% (N) of respondents that supported each theme
A “new” role	77% (24)
They should know	55% (17)
The longer it gets the worse it gets	51% (16)
Connection to others	71% (22)
Recommendations to do more	93% (29)

A “New” Role

Results from the study indicated that when a student-athlete has a severe injury they would take on a different role on the team. In many cases, the new role is filled with taking on tasks often assigned to younger teammates, managers, coaches, volunteers, or interns. Some of the tasks student-athletes were asked to do included, but are not limited to: collecting cones, “go grab a bucket of balls or go catch for somebody” (Participant #18), assistant coaching, stats, filming games and “documenting passes and assists” (Participant #24), “man our scoreboard and our shot clock” (Participant #30). The type of task support given to each student-athlete varied based on the type of sport the student-athlete played.

For a few of the student-athletes interviewed, adjusting to this new role was easier because of their acceptance of the tasks they were provided in order to stay a part of the team. Although participants acknowledged that their role on the team was different, the majority of student-athletes understood that due to their injury it was expected that their role would change. A small number of participants saw completing tasks and being at practices and games as a way to remain part of the team. “I was fine with it, because I knew what my role was on the team, and I knew I wasn’t coming back and they have a job to do.” (Participant #15). Other student-athletes discussed the conversation with coaches about their new role as beneficial to their adjustment.

I had a meeting with my head coach and he was like, ‘hey, no one ever teaches you how to act when you are hurt. This is what you need to do to stay in the mix with your teammates and everything just because you can’t help them on the field by winning. ‘So he helped me in that sense - Participant #18

For others, it was more difficult for them to come to terms with their new role, especially when the activities they were asked to complete had little to do with their athletic identity. “Sometimes I have moments when I’m not [feeling part of the team] because on the sidelines at games, I don’t wear a jersey because I am not cleared to play and I can only do 50% of the practice so even at practices I have to sit aside” (Participant #29). Participant #9 added, “It’s kind of a self-doubt...it’s just the realization of it is what it is and you are in a weird space where you are not a player and you’re not a coach or anything and you’re just kind of observing.”

Participants that were once thought of as a valuable member of the team were now being forced to play a reduced role. Many participants saw this as a form of adding insult to injury.

They were like okay (student-athlete’s name) is walking we are going to make her do all the bitch work, basically. I knew I had to do it because I was still a part of the team...but it was a very tough, tough time. I feel like they knew I was hurt but didn’t really care. – Participant #1

I actually filmed some of the games, which kind of sucked...I mean it kind of made me feel like outside of the team like the fact that they were making me film games...I just didn’t think it was fair treatment to give me, cause it’s like I want to be down on the field. I like couldn’t even talk. You can’t say anything when you are filming and you have to sit up in the stands so I just kind of felt very disconnected from the team. – Participant #19

Finally, one participant, whose athletic career was in jeopardy, summarized the difficulty of coming to grips with a new identity:

Maybe just like understanding how hard it is for a player to not be able to do what they love ever again. That is who we are, that is our identity and then once you realize you can't do that anymore you have to redefine yourself almost completely and it's really hard. – Participant #12

They Should Know

There are certain emotions and feelings an injured student-athlete faces, which may include but are not limited to depression, anxiety, and isolation. Participants interviewed felt that coaches, athletic trainers, teammates and other staff should be aware of how hard recovery can be for the student-athlete. For those participants that felt that the level of social support was appropriate, conversations with their social network (coaches, athletic trainers, and teammates) was important. (Participant #12) described it as the ability to “let loose” with trainers. However, for the majority of participants, the perception of social support provided from their social network was lacking due to others' inability to understand or provide appropriate support.

Most participants tended to speak about the lack of social support provided by the coaches. “[My head coach] is not really super supportive. I guess he is just more focused on soccer and the people who are actually playing other than the injured players.” – Participant #19. Participant #1 stated, “I felt like out of everyone, as a head coach, she should have been the most supportive but I thought that lacked a lot from her.” Participant #31 stated,

“I am not playing anymore and at that point they [the coaches] kind of out casted me. I mean obviously cause I was so involved, and I was really close with the head coach and I would always stop by his office and help him out with stuff or I would help out our defensive coordinator with scout team or whatever they needed I would kind of be their go to guy. But as for like how they treated me before the injured compared to after, it was 100% different.” – Participant #31

Other student-athletes discussed the social support received by the athletic trainer. “I mean I didn't think of it, but a lot of people that do have ACLs and stuff, they should have gotten more attention; even mentally, not even just the physical aspect. Like people that were getting depressed over their injuries and stuff. The athletic trainers didn't really know how to handle that part” – Participant #27. “When me and the other girl both got injured at the same time we were viewed [by the trainers] as the exact same. I guess it would have been nice to be your own person because it was how are you both doing?” – Participant #30

Finally, participants also discussed the lack of support they received from teammates. “At that point, I didn't feel a part of the team because I wasn't practicing. I wasn't going to practice, I wasn't going to the workouts and I just felt excluded a little bit.” – Participant #12

It would have been nice to have someone to talk to and just invite you out with the guys. I mean when I was in the hospital no one came and saw me when I first got out of surgery no one came and saw me when I first got back to campus no one came and saw me, I was kind of on my own. So it would have been nice to have some people help out in that way

come out and hang out with me in my room because I couldn't move after surgery. It would have been nice - Participant #31

You're gonna get some type of shit [from your teammates] for being injured all the time, so you know it's to be expected. When I was given a hard time, I would kind of joke along with it, and at times it was just like I would get so down on it...it kind of weighed on me -Participant #16

Many participants did not single out one group of people, but rather spoke in general terms about getting support from their network.

Participant #31:

I did not, actually I was kind of alone through the whole thing and it kind of sucked liked really sucked...Oh I definitely needed someone but I would never reach out to anyone and nobody ever reached out to me. I mean I always had those people on Facebook, 'if you need anything let me know.' But I am not going to tell someone that messages me on Facebook that. So it was a really lonely time and I really found out who my friends were.

The Longer it Gets the Worse it Gets

The perception of others begins to change as the injured student-athlete no longer needs the physical components that bring attention to the injury such as a brace or crutches. As time goes on, people tend to forget that the injured student-athlete may still need social support from their social network even though it has been months since their injury. Student-athletes talked about the hardships of losing much of their support as the rehabilitation took longer and the injury prevented them from going back to their regular student-athlete routine. Student-athletes discussed how their social support "died down..." (Participant #7) or "dwindled." Participant #1, who was out for 18 months, discussed when her support started declining, "But once you are walking and you seem to be living as a normal person they don't really see it as much of an injury anymore. And that's where it got tough for me."

Participant #6 added, "I feel like after those two or three weeks I was trying to be a part of the team but I sometimes felt like I was fooling myself 'cause it didn't really matter if I was there or not because I ended up missing a game and nobody ever said anything." Participant #12 described the change in social support:

They all understand, they were like '[student-athlete name] you're gonna get back at it! You can do it!' After a couple of months, they were like, "Okay, [student-athlete name], you should be getting better. What is going on? Are you faking it? Why aren't you better?" So there was a point where my symptoms were so prolonged that they started questioning me a little and then it got to point where I was almost embarrassed cause I can't do anything about it.

Connections to Others

When a student-athlete gets injured, he or she may have a certain person that they feel most comfortable to talk to about their injury. For many of our participants, they relied on family, and/or significant others. Participant #5 stated, “If I was having a bad day, if I wasn’t pleased how rehab was going or just bad in general it would typically be my parents. They were typically my go to.” Participant #20 added,

One support system I would say is my family. My brother had torn his ACL in the past. I think he tore his in college so it was like ironic that it happened around the same time period that it happened to me so I would definitely go and get a lot of advice when I would be down I would talk to him about it as well.

For many injured student-athletes speaking to other student-athletes who had previously been injured proved to be most helpful. A majority of the student-athletes stated that speaking to another previously or simultaneously injured athlete provided them with the greatest amount of social support. Participant #26 said:

Yeah I think that really helped me because my one teammate did that as well a few years prior. I think it made me realize that I would be able to get through it and I would be able to play just as well as I did at one point because my teammate - she was playing.

Student-athletes that talked about the support they received discussed their experience as if they were now part of another identity group or team. Participants, in some cases, found support from being associated with just one other injured student-athlete:

There was a girl a grade older than I am but she also got hurt two weeks before me freshman year and then she got hurt two months before I did my second one so we were, everyone called us the twins! - Participant #30

During my first injury we did physical therapy together because it would be like we would do it during our training times so I went to her a lot because she knew what I was going through. She had three ACL tears, so she really helped me because she knew what was going on. – Participant #19

Other participants talked about the informal group that formed during their rehabilitation and how helpful that was to receive the necessary social support.

We would always come in the same time to do our therapy so that, but this was like later on into my recovery, at this point there were two kids, me and the other kid on the football team who were three months ahead of everybody else with their recovery so we were kind of like the mentors. Like hey you are going to get through this hey you may be in more pain next week then you are now but that is normal don’t freak out. So it was kind of like a mentor program like we would get together and talk. But we would get

together outside of the training room a lot like how is your knee doing today and here is your next step, here is what you can expect – Participant #31

Recommendations to do More

There are several recommendations the participants offered to improve the overall well-being of an injured student-athlete. Out of the 31 participants interviewed, 29 had suggestions to provide outlets for injured student-athletes. Some of the recommendations included: working with a sport psychologist, open dialogue, developing a system that routinely checks on the injured student-athletes' well-being, and educational programs for athletic trainers and coaches. Student-athletes had certain recommendations based on their own experiences, such as the NCAA Division level they played at, the sport they played, and a number of individuals that were on their team. For example, participants believed that Division I schools are going to have more resources to devote to developing these recommendations compared to Division II or III schools. However, participants provided suggestions for schools that do not have the necessary resources, including relying on informal, less costly approaches to “bringing injured student-athletes together” (Participant #9) to provide better social support.

There can be groups of student-athletes that can meet up that have been injured before. Where there's a lack of support system then you have other athletes that go to the school that are going through the same thing. You can all just meet up, talk about stuff, and just get everything out and everyone can relate in some way knowing other people are going through the same thing as you. – Participant #19

Other participants discuss a formal and “consistent” (Participant #7) approach established by the school to provide better social support to injured student-athletes. Participants that discussed a formal approach encouraged the school's Student-Athlete Advisory Committee or Leadership programs to establish peer social support networks. “I believe there should be a check system where the athlete goes and sits down and talks about what is going through their mind...to see where they are mentally” (Participant #6).

In addition to a structured program built around dialogue with student-athletes, other suggestions included structured conversations with a “sport psychologist, for their mental health” (Participant #31); “an outsider...someone that I don't deal with on a daily basis to get their perspective” (Participant #5); “more one-on-one time with the trainers...to connect on a personal level” (Participant #27); “having a meeting with the whole coaching staff. Asking what the future is” (Participant #18); “talk to the team [about the injured student-athlete] to help approach them [the injured student-athlete] and to ask him if he needs anything. Just having a tight knit team can help you there” (Participant #23).

Discussion

The purpose of this study was to better understand injured student-athletes' perception of social support and whether additional resources during their recovery process would enhance the student-athlete's overall well-being. Participants in the study expressed the need for more social support throughout the recovery process. A unique aspect of this study is that our participants were not all part of one team or from one school or suffered the same injury. Rather our

participants were identified based on the severity of the injury and the length of time away from their sport, which allowed for a variety of participant experiences. Themes identified related primarily to role changes and inadequate social support. The research question for this study asked what are injured collegiate student-athletes' perceptions of social support during their recovery process. Results revealed the following five themes: that participants had to adjust to a new role, had expectations that those around them would be more supportive, experienced less social support as their recovery time lengthened, found other injured student-athletes to be a source for social support, and offered recommendations to improve social support.

When a student-athlete gets injured, many endure feelings of loss in their athletic identity. This loss is critical to the athlete as previous research has found that student-athletes' social identity has been centered on their team membership (Brewer, Cornelius, Stephan, & Van Raalte, 2010; Green & Weinberg, 2001). Losing this athletic identity and being forced to adjust to a new role on the team can be devastating to student-athletes that place an emphasis on their athletic identity (Morrey, Stuart, Smith & Wiese-Bjornstal, 1999).

The majority of the participants in the current study felt that not only was the change in identity hard, but many injured student-athletes were disappointed in the alternative team role given by their support group, in particular, their coaches. For instance, many student-athletes were required to complete tasks. This type of task challenge support can be successful depending on the individual, circumstances of the injury, and the timing of task assigned (Richman et al., 1993). A few of the participants found this type of support sufficient to fulfill their new responsibilities as a team member. Others, however, reported actually feeling further isolated which may have a detrimental impact on their social identity as a student-athlete (Brewer, Cornelius, Stephan, & Van Raalte, 2010; Green & Weinberg, 2001).

Although a significant number of studies found task challenge support satisfying to injured athletes (Corbillon, Crossman & Jamieson, 2008; Judge et al., 2012; Robbins & Rosenfeld, 2001), there is a need for additional forms of support through the recovery process, including informational, practical, and emotional (Johnston & Carroll, 1998; Robbins & Rosenfeld, 2001; Udry, 2001). Relying solely on repetitive and unproductive tasks as a way to support an injured student-athlete was not enough for participants in this study. As noted in the integrated model of response to sport injury, provision of social support or lack thereof, results in cognitive appraisal by the injured student-athlete (Wiese-Bjornstal, et al., 1998). As we found in our research, this could lead to positive or negative responses to the injury.

In addition to dissatisfaction with their new role, many student-athletes felt sport administrators, and teammates should be more in tune to their social support needs. Participants particularly focused on coaches as they felt their coaches should be more aware of the feelings and emotions they were going through and how difficult the recovery process can be. Many of the participants felt they would have liked more support directly from their coaches instead of a coach speaking through their athletic trainer or teammate. Although most participants understood that the coach had a job to do, many felt they were distant from their team and treated differently by their coaches compared to when they were a healthy player. Participants understood the heavy demands placed on coaches at all levels, but still felt that a coach should be able to provide some level of basic social support such as a sign of acknowledgement, a pat on the back or a quick conversation.

Findings from this study support previous research that found a lack of social support from coaches (Bianco, 2001; Judge et al, 2012; Robbins & Rosenfeld, 2001; Udry 1997). In Udry's (1997) study, coaches were described as distant, insensitive to the injury and lacking in

the belief of the athlete. Robbins and Rosenfeld (2001) found the participants would have appreciated more social support from their head and assistant coaches. Podlog and Dionigi (2010) discovered a mismatch of the perception of support needed by an injured athlete from the coach and the support received. The integrated model specifies coaches' influences as a situational factor that affects cognitive appraisals. In this research, it was found that student-athletes did not feel that the support from the coaches was sufficient, which may have accounted for negative feelings.

Our study shows that as time goes on, people tend to forget a student-athlete is injured and needs continued support; this becomes more pronounced when they remove the physical signs such as a brace or boot. Because our participants suffered a severe injury and were out for a least four months, this finding is particularly relevant. Unlike previous studies, (Hardy et al., 1991; Robbins & Rosenfeld, 2001) our participants were able to discuss their experiences of dealing with a longer recovery period and provide insight to the changes in the support provided during a lengthy period. This type of injury can require support that most coaches and teammates are not prepared to give. While the integrated model addresses injury severity as a personal factor that influences cognitive appraisal, the model does not address the perception that social support diminishes as injury recovery lengthens (Wiese-Bjornstal, et al., 1998).

Many injured athletes tend to face problematic responses to injury, which need to be monitored throughout the entire recovery process (Andrew et al., 2012; Putukian, 2016). McGuine, Winterstein, and Carr (2012) state after a significant amount of time lost due to injury, athletes continue to suffer both physically and mentally, leading to a decrease in quality of life. Similar to our participants' responses, research has shown that for severe injury, social support declines in availability over time, particularly those with less visible injuries (Johnston & Carroll, 1998).

This study supported the integrated model, in that participants reported the importance of social support from others as an important factor to help positive coping (Wiese-Bjornstal, et al., (1998). Most injured student-athletes tend to have a "go to person" to speak with about the emotions they are going through because of their injury. Although some participants stated their parents or girlfriend/boyfriend acted as their support system, there was a consistent theme regarding injured student-athletes receiving support from previously injured student-athletes. The connection from one student-athlete to another seemed to play the largest role in an injured student-athlete's feeling of comfort in their current state. Not only did this type of support allow for the student-athlete to have someone to speak to, but they could speak to someone who knows the process and give them advice based on their experience when they were injured. These findings are consistent with Gould et al. (1997) that found injured student-athletes engage with others who had previously experienced an injury. Johnston and Carroll (1998) called this a "shared social reality" and felt that injured athletes relied on other athletes to provide different types of support throughout the recovery process.

A final theme was that student-athletes felt more could be done when injuries arise and offered specific recommendations to coaches, athletic departments, and institutions to help increase the overall well-being of student-athletes. In an effort to ensure the injured student-athlete receives necessary social support, participants suggested the need for open dialogue during the rehabilitation process between the coaches, athletic trainers, teammates and the injured player. Creating a level of respect and understanding between the needs of the player and the type of support coaches, staff, administrators and teammates can provide are essential. Aside from the importance of open dialogue, the recommendation to have a sport psychologist, or at

the very least an outsider with experience on dealing with social support, on all campus sites was a consistent point of emphasis. Although past research has suggested coaches and athletic trainers do more (Robbins & Rosenfeld, 2001; Richman, Hardy, Rosenfeld, & Callanan 1989; Weiss & Troxel, 1986) participants in this study expected more support from the athletic department and the institution rather than just relying on the coaching staff or trainers. Injured student-athletes appear to have expectations of support beyond the coaching staff and in many cases, beyond members of the athletic department.

A combination of social identity theory and integrated sport injury model provide insights into a better understanding of how social support changes both the identity and injury recovery outcomes (Tajfel & Turner, 1979; Wiese-Bjornstal, et al., 1998). While these models do not account for all aspects of injury recovery, they highlight key aspects for the need for positive social support. This research has also identified the need to account for length of time and injury visibility as key factors in perceived need for social support.

Practical Implications & Conclusions

This study presents several implications for athletic administrators, coaches, trainers, teammates and other student-athletes. While resources at NCAA institutions have been provided to improve student-athlete well-being, athletic administrators should continue to allocate more aid for injured student-athletes; in particular, paying special attention to those that are severely injured requiring a long recovery process. Coaches should be more aware of the support needed by injured student-athletes. Extending beyond the head coach, it is important for assistant coaches to play a role in supporting a student-athlete. Teammates can also provide social support to those that are injured. It is recommended that schools avoid placing the burden of social support solely on coaches, trainers, and teammates, although these still seem to be the groups where injured student-athletes go for social support. Those that do provide social support to an injured student-athlete should consider the various types of social support and not overly depend on task challenge support. Programs should be created that educate coaches, trainers, teammates, and administrators on effective means of social support for severely injured student-athletes throughout their recovery.

Another strategy could be the implementation of informal programming, such as creating opportunities for injured student-athletes to meet on a regular basis with each other to provide both emotional and physical support. These groups would provide an avenue for injured student-athletes to speak about their recovery with others who are dealing with similar issues.

Finally, schools, conferences, and the NCAA should continue the dialogue around the inclusion of professionals who are trained to work with injured student-athletes. A sport psychologist can provide an outlet for a student-athlete who is seeking help outside of their immediate sport environment. In addition, they can provide them with useful tools to ensure the stress from their injury does not carry over to other aspects in their life. Although not many schools have full time sport psychologists, it may be necessary for athletic administrators to examine ways to make this a priority. For schools with limited funds, examining creative ways at the university or perhaps even the conference or NCAA levels to share the financial burdens might be an alternative approach.

Future Research

This project adds to the growing literature regarding social support for the injured student-athlete. Past research acknowledges the importance of social support; however, there is little research on student-athletes' perception of such support. Due to the qualitative design, this study allowed for thick, rich data to emerge in order to understand injured student-athletes' perception of social support. As more programs develop that help student-athletes with their overall well-being, additional research should be conducted to see if the implementation of these programs are successful. Finally, future research should investigate the administrators' and coaches' perspectives of the injury recovery process and the impact of the injury on the student-athlete. There is a need to understand various perspectives of this phenomenon as ongoing misunderstandings of what an injured student-athlete needs during recovery and who is responsible for meeting those needs can reduce a successful rehabilitation.

References

- Adler, P. A. & Adler, P. (1991). *Backboards and blackboards: College athletes and role engulfment*. New York: Columbia University Press.
- Andrew, N., Wolfe, R., Cameron, P., Richardson, M., Page, R., Bucknill, A., & Gabbe, B. J. (2012). Return to pre-injury health status and function 12 months after hospitalization for sport and active recreation related orthopedic injury. *Injury Prevention, 18*(6), 377–384.
- Appaneal R., Levine B., Perna F., & Roh J., (2009). Measuring post injury depression among male and female competitive athletes. *Journal of Sport Exercise Psychology, 31*, 60–76.
- Bauer, M. W. (2000). Classical content analysis: A review. In Bauer, M. and Gaskell, G. (Eds) *Qualitative Researching with Text, Image and Sound*, London: Sage, pp. 131-151.
- Bianco, T. (2001). Social support and recovery from sport injury: Elite skiers share their experiences. *Research Quarterly for Exercise and Sport, 72*, 376-388.
- Brewer, B. W. (1993). Self-identity and specific vulnerability to depressed mood. *Journal of Personality, 61*, 343-364.
- Brewer, B. W., Cornelius, A. E., Stephan, Y. & Van Raalte, J. (2010). Self-protective changes in athletic identity following anterior cruciate ligament reconstruction. *Psychology of Sport and Exercise, 11*, 1–5.
- Clement, D., & Shannon, V. (2011). Injured athletes' perceptions about social support. *Journal of Sport Rehabilitation, 20*, 457-470.
- Corbillon, F., Crossman, J., & Jamieson, J. (2008). Injured athletes' perceptions of the social support provided by their coaches and teammates during rehabilitation. *Journal of Sport Behavior, 31*(2), 93-107.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage.
- Denzin, N., & Lincoln, Y. (1998). *Collecting and interpreting qualitative materials*. Newbury Park: Sage.
- Evans, L., Wady, R., Hanton, S., & Mitchell, I. (2012). Stressors experienced by injured athletes. *Journal of Sport Sciences, 30*, 917-927.
- Gould, D., Bridges, D., Udry, E., & Beck, L. (1997). Coping with season-ending injuries. *The Sport Psychologist, 2*, 379-399.
- Gratton, C., & Jones, I. (2004). *Research methods for sport studies*. New York: Taylor and Francis Group.
- Green, S. L. & Weinberg, R. S. (2001). Relationships among athletic identity, coping skills, social support, and the psychological impact of injury in recreational participants. *Journal of Applied Sport Psychology, 13*(1), 40–59.
- Hardy, C. J., & Grace, R. K. (1993). The dimension of social support when dealing with sport injuries. In D. Pargman (Ed.), *Psychological Bases of Sport Injuries* (pp. 121-144). Morgantown, WV: Fitness Information Technology.
- Hardy, C. J., Richman, J. M., & Rosenfeld, L. B. (1991). The role of social support in the life stress/injury relationship. *The Sport Psychologist, 5*, 128-139.
- Horton, R. & Mack, D. (2000). Athletic identity in marathon runners: Functional focus or dysfunctional commitment. *Journal of Sport Behavior, 23*(2), 101–119.
- Jordan, D. B. (2016). Student-athletes' perception of mental illness and attitude toward help-seeking. *Journal of College Student Psychotherapy, 30*(3), 161-175.

- Johnston, L. H., & Carroll, D. (1998). The provision of social support to injured athletes: A qualitative analysis. *Journal of Sport Rehabilitation*, 7, 267–284.
- Judge, L. W., Beller, D., Blom, L.C., Lee, D., Harris, B., Turk, M., McAtee, G., & Johnson, J. (2012). Perceived social support from strength and conditioning coaches among injured student-athletes. *Journal of Strength and Conditioning Research*, 26(4), 1154-1161.
- Kraemer, W., Denegar, C., & Flanagan, S. (2009). Recovery from injury in sport: Considerations in the transition from medical care to performance care. *Sports Health*, 1(5), 392–395.
- Lam, K. C., Snyder, V. A., & Valovich-McLeod, T. C. (2015). Injury and treatment characteristics of sport-specific injuries sustained in interscholastic athletics: a report from the athletic training practice-based research network. *A Multidisciplinary Approach*, 7(1), 67-80.
- Larson, G., Starkey, C. & Zaichkowsky, L. (1996). Psychological aspects of athletic injuries as perceived by athletic trainers. *The Sports Psychologist*, 10(1), 37-47.
- Lentz, B. Kerins, M. & Smith, J. (2018). Stress, mental health and the coach-athlete relationship. *Applied Research in Coaching Athletics Annual*, 33, 214-238
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
- Macchi, R., & Crossman, J. (1996). After the fall: Reflections of injured classical ballet dancers. *Journal of Sport Behavior*, 19, 221-234.
- Mainwaring, L. M. (1999). Restoration of self: A model for the psychological response of athletes to severe knee injuries. *Canadian Journal of Rehabilitation*, 12, 145-156.
- Malinauskas, R. (2010). The associations among social support, stress, and life satisfaction as perceived by injured college athletes. *Social Behavior and Personality*, 38(6), 741-752.
- McGuine T., Winterstein A., & Carr, K. (2012). Changes in self-reported knee function and health-related quality of life after knee injury in female athletes. *Clinical Journal of Sport Medicine*, 22, 334–40.
- Mitchell, I., Evans, L., Rees, T., & Hardy, L. (2014). Stressors, social support and tests of the buffering hypothesis effects on psychological response of injured athletes. *Journal of Health Psychology*, 19(3), 486-508.
- Morrey, M. A., Stuart M. J., Smith A. M., & Wiese-Bjornstal, D. M. (1999). A longitudinal examination of athletes' emotional and cognitive responses to anterior cruciate ligament injury. *Clinical of Journal Medicine*. 9(2), 63-69.
- Patton, M. (2002). *Qualitative research & evaluation methods*. Thousand Oaks, CA: Sage.
- Podlog, L., & Dionigi, R. (2010). Coach strategies for addressing psychosocial challenges during the return to sport from injury. *Journal of Sports Sciences*, 28, 1197-1208.
- Podlog, L., & Eklund, R. C. (2010). Returning to competition after a serious injury: The role of self-determination. *Journal of Sports Sciences*, 28, 819-831.
- Putukian, M. (2014). Mind, body and sport: How being injured affects mental health. *NCAA*. Retrieved from: <http://www.ncaa.org/health-and-safety/sport-science-institute/mind-body-and-sport-how-being-injured-affects-mental-health>
- Putukian, M. (2016). The psychological response to injury in student-athletes; a narrative review with a focus on mental health. *British Journal of Sports Medicine*, 50, 145-148.
- Quinn, A. M., & Fallon, B. J. (2010). Predictors of recovery time. *Journal of Sport Rehabilitation*, 9(1), 62-76.

- Rees, T., Mitchell, I., Evans, L., & Hardy, L. (2010). Stressors, social support and psychological responses to sport injury in high- and low-performance standard participants. *Psychology of Sport and Exercise, 11*(6), 505-512.
- Richman, J., Hardy, C., Rosenfeld, L. & Callanan, R. (1989). Strategies for enhancing social support networks in sport: A brainstorming experience. *Journal of Applied Sports Psychology, 2*, 150-159.
- Richman, J., Rosenfeld, L., & Hardy, C. (1993). The social support survey: A validation study of a clinical measure of the social support process. *Research on Social Work Practice, 3*, 288-311.
- Robbins, J. & Rosenfeld, L. (2001). Athletes' perception of social support provided by their head coach, assistant coach, and athletic trainer, pre-injury and during rehabilitation. *Journal of Sport Behavior, 23*, 277-297.
- Rotella, R. J., & Heyman, S. R. (1993). *Stress, injury, and the psychological rehabilitation of athletes*. In J. M. Williams (Ed.), *Applied sport psychology: Personal growth to peak performance* (2nd ed., pp. 338–355). Mountain View, CA: Mayfield
- Sarason, I. G., Levine, H. M., Basham, R. B., & Sarason, B. R. (1983). Assessing social support: The Social Support Questionnaire. *Journal of Personality and Social Psychology, 44*(1), 127-139.
- Shumaker, S. A. & Brownell, A. (1984). Toward a theory of social support; Closing conceptual gaps. *Journal of Social Issues, 40*, 11-36.
- Smith, R. E., Smoll, F. L., & Ptacek, J. T. (1990). Conjunctive moderator variable in vulnerability and resiliency research: Life stress, social support and coping skills, and adolescent sport injuries. *Journal of Personality and Social Psychology, 58*, 360-370.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research (2nd ed.)*. Newbury Park, CA: Sage.
- Tajfel H., & Turner J. (1979). *An integrated theory of intergroup conflict*. In: Austin WG, Worchel S, editors. *The social psychology of intergroup relations*. Monterey: Brooks-Cole; p. 33–47.
- Tasiemski, T., Kennedy, P., Gardner, B.P. & Blaikley, R.A. (2004). Athletic identity and sports participation in people with spinal cord injury. *Adapted Physical Activity Quarterly, 21*, 354–378.
- Thompson, R. A., & Sherman, R. T. (2007). Managing student-athlete's mental health issues. *NCAA*. Retrieved from: https://www.ncaa.org/sites/default/files/2007_managing_mental_health_0.pdf
- Tracey, J. (2003). The emotional response to the injury and rehabilitation process. *Journal of Applied Sport Psychology, 15*(4), 279–293.
- Udry, E. (1997). Coping and social support among injured athletes following surgery. *Journal of Sport and Exercise Psychology, 19*, 71-90.
- Udry, E. (2001). The role of significant others: Social support during injuries. In J. Crossman (Ed.), *Coping with sport injuries: Psychological strategies for rehabilitation*. (pp. 148-156). Oxford: Oxford University Press.
- Udry, E., Gould, D., Bridges, D., & Tuffey, S. (1997). People helping people? Examining the social ties of athletes coping with burnout and injury stress. *Journal of Sport and Exercise Psychology, 19*, 368-395.

- Washington-Lofgren, L., & Westerman, B.J. (2004). The role of the athletic trainer in the post-injury psychological recovery of collegiate athletes. *International Sports Journal*, 28, 95-111.
- Wadey, R., Evans, L., Hanton, S., & Neil, R. (2011). An examination of hardiness throughout the sport injury process. *British Journal of Health Psychology*, 17(1), 103-128.
- Weiss, M. R., & Troxel, R. K. (1986). Psychology of the injured athlete. *Journal of Athletic Training*, 21, 104-109.
- Wiese-Bjornstal, D. M., Smith, A. M., Shafer, S. M., & Morrey, M. A. (1998). An integrated model of response to sport injury: Psychological and sociological dynamics. *Journal of Applied Sport Psychology*, 10, 46-69.
- Yang, J., Peek-Asa, C., Corlette, J., Cheng, G., Foster, D., & Albright, J. (2007). Prevalence of risk factors associated with symptoms of depression in competitive collegiate student athletes. *Clinical Journal of Sport Medicine*, 17 (6), 481-487.
- Yang, J., Peek-Asa, C., Lowe, J.B., Heiden, E., & Foster, D.T. (2010). Social support patterns of collegiate athletes before and after injury. *Journal of Athletic Training*, 45, 372-379.
- Yin, R. K. (2003). *Case study research: Design and methods (3rd ed)*. Thousand Oaks, CA: Sage Publications.