Young athletes' perceptions of playing through pain

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An Abstract of a Thesis
Submitted
in Partial Fulfillment
of the Requirements for the Degree
Master of Arts

Aubri Keesee
University of Northern Iowa
May 2020
ABSTRACT

Throughout the early career of an athlete, they are introduced and socialized into the sport ethic culture of risk of playing through pain. The purpose of this paper was to examine factors thought to influence young athletes’ conformity to the sport ethic by playing through pain. These factors included: athletic identity, fear of failure, and perceived pressure from important others to play through pain (Jessiman-Perreault & Godley, 2016; Nixon, 1994). The researcher contacted sport club organizations, recreational clubs, and school principals to seek cooperation. Participants included 140 male and female athletes aged 11-18 years old. Participants completed the Risk of Pain and Injury Questionnaire, Athletic Identity Measurement Scale, and the Performance Failure Appraisal Inventory. An athlete’s approval of withstanding the risks of pain and injury in sport was weakly, positively related to perceived pressure from significant others to play through pain and athletic identity. Athletes with high athletic identity expressed greater approval of withstanding the risks of pain and injury in sport. No difference was found between age groups on perceived pressure to play through pain from significant others. Perceived pressure from significant others to play through pain emerged as the strongest predictor for an athlete’s approval of withstanding the risks of pain and injury in sport. Future research should examine the difference between team and individual sports and their relationship to athletic identity, fear of failure, and perceived pressure from significant others to play through pain.
YOUNG ATHLETES’ PERCEPTIONS OF PLAYING THROUGH PAIN

A Thesis
Submitted
in Partial Fulfillment
Of the Requirements for the Degree
Master of Arts

Aubri Keesee
University of Northern Iowa
May 2020
This Study by: Aubri Keesee

Entitled: Young athletes’ perceptions of playing through pain

has been approved as meeting the thesis requirement for the

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CHAPTER 1
INTRODUCTION

In 1956, Manchester City goalkeeper, Bert Trautmann, broke several vertebrae in his neck after colliding with opponent Peter Murphy. Trautmann continued to play in the game and helped his team win with a 3-1 score over Birmingham (BBC Sports, 2013).

Ronnie Lott was the 49’ers safety in 1985. During a game against the Dallas Cowboys, Lott’s finger was smashed. To avoid a long recovery time to reconstruct his finger, Lott decided to amputate the broken finger. Lott’s action is viewed as ‘heroic’ or ‘the extreme act of a warrior’ (SI.com, 2014). In 2008, Tiger Woods won the US Open with a torn ACL in his left knee and two stress fractures in his left tibia. Woods was injured three weeks before the tournament, and when he heard his treatment included three weeks of crutches proceeded by three weeks of rest, he looked at his doctor and responded that he was going to play in the tournament and win (ESPN.com, 2008). Malcom (2006) summarized that this attitude is often portrayed by athletes who are dedicated to their sport and persevere through pain to continue to play. However, this attitude is not something athletes are born with, but rather is created through cultural messages (Hughes & Coakley, 1991).

Athletics play a large part in the development of many children socially, physically, and mentally. Three main motives for youth participation in sport include: an eagerness to demonstrate physical competence; opportunity to gain social support from parents, teachers/coaches and peers; and enjoyment/fun (Weiss, 2000). Parents hope their children will learn life lessons, such as teamwork, time-management skills, dedication,
and sacrifice throughout their sporting programs. While some of these life lessons may leave a positive impact on the athlete, research has shown that as athletes grow and develop in sport, negative outcomes occur as well (Nixon, 1993). Throughout the early career of an athlete, they are introduced to the concept of the sport ethic. Hughes and Coakley (1991) define the sport ethic as the normative criteria that needs to be met to be considered a “real athlete.” The sport ethic, a culture of risk that athletes conform to, specifically a culture of playing through pain, is gradually introduced to the athlete.

Glorification of pain is displayed across the sporting world and encourages athletes to play through pain. The glorification is displayed through motivational locker room slogans such as: “A winner never stops proving it”, “Never quit”, “Whatever it takes”, “No pain no gain”, and “The show must go on” (Locker room slogans, 2014). These slogans are part of the socialization into the sport ethic that athletes observe. The slogans support the idea that if an athlete were to stop competing at any point for any reason, then the athlete is not committed, but if the athlete continues to play through pain, then he/she will be glorified for his/her accomplishment.

Malcom (2006) states that athletes who are dedicated to the sport ethic have trouble differentiating pain that is caused by extreme physical activity, and pain that is a warning signal to a future debilitating injury. This attitude is developed over time with more experiences in sport. Taylor and Taylor (1997) offer insight into two different types of pain that athletes feel: performance pain and injury pain. Performance pain is a short sharp pain that an athlete feels, but can control (Taylor & Taylor, 1997). For instance, when an athlete is stretching his or her hamstrings and feels a pull, then this would be
performance pain because the athlete is in control of how much pain they feel and can stop at any time. Injury pain is deep-rooted and cannot be controlled by the athlete and is related to disrupting performance. When an athlete tears an ACL and cannot perform due to the pain that is felt, then this would be injury pain (Anderson & Hanrahan, 2008). Pain is a warning function that tells one of present trauma or impending trauma. This is a signal for one to recognize when they have achieved or overachieved an optimal load level (Salwin & Zajac, 2016). Pushing oneself past the optimal load, or exceeding the optimal load, is an example of how an athlete conforms to the sport ethic. Exceeding the optimal load can often lead to debilitating injuries that could pause or permanently stop an athlete’s career. However, when an athlete does exceed the optimal load, he or she are oftentimes met with praise and are glorified for pushing past the pain (Jessiman-Perreault & Godley, 2016).

One factor that may influence the adoption of the sport ethic and increase one’s willingness to play through pain is athletic identity. Athletic identity is defined as the degree to which an athlete identifies to the athlete role (Weinberg, Vernau, & Horn, 2013). Cognitively, athletic identity is how the athlete interprets information and acts based on this interpretation. In the social role, athletic identity is how the athlete sees their role and others in society (Horton & Mack, 2000). Athletic identity has both positive and negative consequences. High athletic identity can lead to increased self-esteem (Marsh, Perry, Horsely, & Roche, 1995), and leads to an increase in physical activity (Danish, 1983). A negative consequence of athletic identity is the inability to separate the athlete role from everyday life (Tasiemski, Kennedy, Gardner, & Blaikley, 2004), and
has been linked to post-injury depression (Brewer, 1993). An athlete’s identity is also related to attitudes and behaviors towards pain (Weinberg et al., 2013). Athletes may play through pain because of their athletic identity, which may be related to a fear of failure.

Fear of failure occurs when an individual feels failing to achieve an important goal is threatening to their success (Conroy, Willow, & Metzler, 2002). Fear of failure in children can start between the ages of 5-9 years old (McClelland, 1958; as cited in Sagar, Lavallee, & Spray, 2009). Athletes who fear failure may increase training time and training intensity to avoid failure (Sagar et al., 2009). Individuals higher in fear of failure can display behaviors that are harmful to themselves and to others, such as becoming overly aggressive (Sagar, Boardley, & Kavussanu, 2011). Fear of failure may stem from an athlete’s social influences because athletes value the thoughts and opinions of important others. This may be another factor that is related to playing through pain.

Social influences can have an impact on an athlete’s decision to play through pain via feedback: verbal or nonverbal, pressure, or actions (Heaney & Israel, 2008). An athlete’s social influences include coaches, family, and friends/peers. Waldron and White (2008) found that athletes felt the need to play through pain because of teammates, parents, and coaches. Common responses from athletes included that they did not want to let the team down, the team needed them, or they wanted to help the team. Jessiman-Perreault and Godley (2016) concluded that a coach’s actions have a significant impact on an athlete’s behavior, but a coach’s words may have an equal impact. As professionals, parents, and friends it is important to know how reactions to an athlete’s situation can impact the athlete’s decision to play through pain.
Within an athlete’s career, injury and pain is an accepted consequence of sport. Between the years 2011-2014, an estimated 8.6 million sports and recreational injuries occurred on average per year in Americans aged 5 and older. Children, ages 5-14 years old, were 37% of this total (Sheu, Chen, & Hedegaard, 2016). While this number seems high, even more injuries occurred that were not reported. Throughout an athlete’s career, injury and pain is an accepted consequence of sport; playing through pain is a concept that athletes are socialized into, and the further athletes are into their career, more factors play a part in the socialization. If an athlete plays through pain, there could be negative consequences such as, not being able to give their all or career ending injuries. However, some athletes may feel they do not have a choice and need to play through pain. For instance, an injured athlete may feel if they stop sport due to an injury, then they may lose their identity as an athlete; or the athlete may fear disappointing important social influences.

**Purpose Statement**

The primary purpose of this paper was to examine factors thought to influence young athletes’ in grades 5th – 12th to conform to the sport ethic by playing through pain. Factors that play a role in an athlete’s decision to play through pain include: athletic identity, fear of failure, and perceived pressure from important others to play through pain (Jessiman-Perreault & Godley, 2016; Nixon, 1994).
Research Questions and Hypotheses

The research questions and hypotheses for this study were:

1. What was the relationship between athletes’ approval of withstanding the risks of pain and injury in sport and athletic identity, fear of failure, and perceived pressure to play through pain from coaches, parents, and teammates?

   Hypothesis A: Higher athletic identity would be positively related to an athlete’s approval of withstanding the risks of pain and injury in sport.

   Hypothesis B: Higher fear of failure would be positively related to an athlete’s approval of withstanding the risks of pain and injury in sport.

   Hypothesis C: Higher perceived pressure to play through pain from coaches, parents, and teammates would be positively related to an athlete’s approval of withstanding the risks of pain and injury in sport.

2. Do athletes with higher athletic identity have greater approval of withstanding the risks of pain and injury in sport?

   Hypothesis: Athletes with higher athletic identity would report greater approval of withstanding the risks of pain and injury in sport than athletes with lower athletic identity.

3. Do athletes in grades 9-12 perceive greater pressure from significant others to play through pain compared to athletes in grades 5-8?

   Hypothesis: Athletes in grades 9-12 would perceive greater pressure from significant others to play through pain.
4. Does athletic identity, fear of failure, and pressure from significant others predict greater approval of withstanding the risks of pain and injury in sport?

Hypothesis: Athletic identity would emerge as the strongest predictor of an athlete’s approval of withstanding the risks of pain and injury in sport.

Significance of the Study

This study is significant because it was based on the recommendations of various studies that explored playing through pain. For example, Brewer, Van Raalte, and Linder (1993) suggested that research needs to examine the relationship between athletic identity, personality, sport performance, and exercise behavior variables. Weinberg et al. (2013) explained that it is important to determine why athletes’ perceive playing through pain; specifically, further research should examine (a) when attitudes of playing with injury develop; (b) what experiences develop these positive attitudes toward injury; and (c) who is responsible for this socialization. Jessiman-Perreault and Godley (2016) suggested that future research should examine when the sport ethic is internalized in children. Through the recommendations of Fenton and Pitter (2010), additional studies are needed to investigate factors that influence youth sport participants’ choice to conform to the sport ethic and play through pain.

Playing through pain can be problematic for multiple reasons. First, pain is the body’s way of communicating that something is not right. Continuing to exert oneself despite the pain can lead to overuse injuries, such as arthritis or a degenerating meniscus (Penn Medicine, 2018). Second, playing through pain can lead to career ending injuries, such as ligament and tendon tears (Goodes, n.d.). Finally, if an athlete does have a career
ending injury due to playing through pain, the athlete loses opportunities to play sports for high school, college, or even professionally. This research can be used to help further the knowledge of sport psychologists, coaches, and parents as to why young athletes play through pain. Proper coaching techniques can be implemented to help athletes understand what pain is appropriate to overcome and play through, and what types of pain are a warning signal of a risk of an oncoming debilitating injury. This research is a tool for coaches to use to help recognize and understand the complications that can occur when they encourage athletes to conform to the sport ethic. If coaches and parents can encourage athletes to play to the best of their abilities and to train smart, which includes rest and decreasing training load, then athletes may not conform to the sport ethic.

Delimitations

The delimitations of this study included:

1. All participants were between the ages of 11-18 years old.
2. All participants were currently competing in sport.

Limitations

The following limitations were identified for this study:

1. Participants were from a few small Iowa towns.
2. Self-reporting from the previous 6 months about sporting experiences may have led to non-accurate responses.
3. Motivation to respond truthfully may have differed among participants.
4. Readability of questionnaire may have been too hard for younger participants.
5. Length of questionnaire may have caused participants to become bored.
Definition of Terms

**Athletic Identity:** The degree to which an individual identifies with the athlete role (Weinberg et al., 2013).

**Culture of Risk:** Set of beliefs that athletes are socialized into that accept the concepts of risk, pain, and injury in sport (Nixon, 1993).

**Fear of Failure:** Tendency to perceive failure of achieving meaningful goals as threatening to one’s success (Conroy et al., 2002).

**Pain:** A feeling that will grab a person’s attention, alert them of a potential threat to their well-being and motivates them to take remedial action (Chen, Williams, Fitness, & Newton, 2008). It is important to clarify the current study is focused on playing *through* pain and not playing *after* pain.

**Social Influences:** The influence others have on one’s emotions and behaviors.

**Sport Ethic:** The normative criteria that has to be met in order to be considered a real athlete (Hughes & Coakley, 1991).
CHAPTER 2
LITERATURE REVIEW

The purpose of this study was to examine the relationship between athletic identity, fear of failure, and perceived pressure from parents, coaches, and teammates to play through pain in young athletes. This chapter will review literature that discusses the sport ethic, athletic identity, fear of failure, and social influences.

Sport Ethic

The sport ethic is defined by Hughes and Coakley (1991) as the normative criteria that has to be met in order to be a ‘real athlete.’ Between informal reports from athletes, coaches, and autobiographies of sport figures, four criteria must be accepted and met to be considered a “real athlete:” making sacrifices, striving for distinction, accepting risks and playing through pain, and refusing to accept limits.

Athletes need to be willing to make sacrifices for their sport to prove love for the game, and to consistently make sport the priority (Hughes & Coakley, 1991). This means that athletes are willing to meet the demands of the coach, team, and competition. For example, Johns (1993) followed a gymnast, Sarah, for 8 years of her elite career, and gathered data based on interviews and observations. Johns discussed how the gymnasts, coaches, and judges made first impressions based on the athlete’s body composition rather than waiting for the performance. Sarah reinforced this obsession of body composition multiple times and discussed how gymnasts are taught to conform to the sport ethic.
When she qualified for the national gymnastics team, Sarah was provided advice from veteran national team members. The advice was: to remain on the team, a certain image needed to be portrayed, and gymnasts should be willing to do whatever means necessary to make sure that happens. Johns revealed that weight-loss and being lean are important criteria. Sarah recalled during multiple competitions constantly being watched by her coaches to make sure that she did not eat too much. She even stated that multiple girls she competed with had eating disorders (Johns, 1993). This example shows athletes are willing to make sacrifices to be considered a true athlete and by doing so, conform to the sport ethic.

Athletes must be willing to continue to strive for distinction (Hughes & Coakley, 1991). The attitude to never stop getting better or improving and reaching for excellence is instilled in ‘true athletes.’ That is, athletes know winning is what establishes distinction, and breaking records is the ultimate accomplishment. For example, when an athlete breaks a record, they will become recognized for being great. This recognition may provide an athlete’s drive to conform to the sport ethic because they will do anything in their power to reach the ultimate accomplishment.

Athletes are taught to accept risks and play through pain (Hughes & Coakley, 1991). Accepting risks and playing through pain means that an athlete will not quit practicing or competing due to pain or injury. Conforming to accepting the risk of playing through pain is seen as heroic and courageous (SI.com, 2014). Nixon (1992) defined a culture of risk as the set of beliefs that athletes are socialized into that accepts the concepts of risk, pain, and injury in sport. The primary emphasis of these beliefs is
that athletes should play through pain, and is presented when athletes are ridiculed for
taking themselves out of competition when injured, or are praised for their loyalty to the
sport when they play through injury (Jessiman-Perreault & Godley, 2016). The culture of
risk encourages athletes to compete in sport while injured.

Many different aspects play a role into an athlete’s socialization into the culture of
risk in sport. Social media gives special recognition to athletes who play through pain,
parents tell athletes to stop complaining, and coaches praise athletes who continue to play
while injured and may punish athletes who ask to be substituted out of competition
(Fenton & Pitter, 2010). For example, Fenton and Pitter (2010) observed a high school
rugby player limp off the field due to a cramp in his calf; once the cramp was massaged
out, the athlete entered the game again. In the following game, the same player was
observed trying to stretch out a cramp on the field. The athlete received praise from the
coach for “toughening it out,” and staying in the game. Later in the season, athletes were
observed helping teammates overcome an injury on the field. Acknowledging what the
coach approved of earlier in the season may have led the other players start to accept the
culture of risk in sport and play through pain on the field.

Athletes are taught they need to overcome obstacles in the pursuit of possibilities
(Hughes & Coakley, 1991). An athlete who refuses to accept limits in the pursuit of
possibilities tries to change the situation they are in, overcome the situation, or alter the
outcome (Hughes & Coakley, 1991). For example, Fenton and Pitter (2010) describe
three ways an athlete can view substitution. The athlete can accept all impacts of their
injury. For example, the athlete can be pulled out of play or the athlete may not be able to
compete in the future. Athletes can hide the injury by compensating—such as putting more weight on the right foot due to an injury in the left foot. The athlete can ignore the injury and hope that no one else notices. Athletes who view substitution as a negative action, may conform to the sport ethic by refusing to accept limits and accomplish what is necessary to stay in the game.

Hughes and Coakley (1991) explain that athletes who conform to the sport ethic are demonstrating positive deviance. Deviance often holds a negative connotation, suggesting that people who are deviant are causing problems because they are behaving differently than the norm. However, Hughes and Coakley suggest that athletes have positive deviance because they are socialized to believe that conforming to the sport ethic is their sense of duty. Conformity to the sport ethic is encouraged by two different factors. First, the opportunities that athletes experience can be seen as exhilarating or thrilling which will cause the athlete to want to continue. For example, when high school athletes are able to compete at the state level, the athlete can be overcome with an adrenaline sensation because they are able to represent their school in front of the entire state. Second, if an athlete conforms to the sport ethic, they are often praised by coaches and parents, such as when a goalie is stepped on and injured but does not come out of the game. Athletes who do not conform to the sport ethic are often accused of not putting forth the effort, trying to make a difference, or caring about the team (Hughes & Coakley, 1991).

Malcom (2006) observed girls who participated in softball for three years to examine the cultural messages the girls received on how to endure pain and minor
injuries. Malcom found that the sport ethic was not something that novice athletes learn at a certain moment, but rather socialization into the competitive sport culture was an ongoing process. For example, Malcom described three girls who slowly started to conform to the sport ethic. During the first year of each girls’ softball season, the girls were vocal about pain, both minor and major. However, by the third year, Malcom observed the athletes ignoring the pain or acknowledging the pain for a small second, and then moving on. During the third year, Malcom observed that the girls, who had learned to conform to the sport ethic, appeared annoyed with teammates who were vocal about injuries during a practice or game. Malcom concluded that athletes who are completely invested into the sport ethic make little distinction between minor body aches and serious aches, which act as a warning signal for a debilitating injury. This supports Hughes and Coakley’s (1991) definition of the sport ethic because these athletes have accepted the risk of playing through pain.

Sacrifice is an accepted part of sport within an athlete’s career. Fenton and Pitter (2010) observed responses to pain behavior with rugby players from two different settings: high school and college. During a rugby match, the only condition in which a player can be taken off the field and put back on is if the player is bleeding. For example, if an athlete’s calves are cramping, they are stepped on, or their fingers injured, the athlete cannot come off the field, receive first aid, and then reenter the game again. The athlete must stay in the game and continue to play or accept the consequence of coming off the field. During an interview with an elite rugby player, the athlete said during multiple games that he should not have played due to an injury. However, the athlete
reported if in the same situation again, then he would not change his actions and would continue to play. The athlete explained that once he got into a game, he did not want to leave (Fenton & Pitter, 2010). This athlete described that he was praised for playing through pain. From this interview, the authors concluded that playing through pain is a widely accepted consequence of sport.

Athletes conform to the sport ethic because of how they are socialized into the competitive sport culture. Findings from Nixon (1992), Malcom (2006), and Fenton and Pitter (2010) revealed that athletes conform to the sport ethic by playing through pain and accepting the risks that are a consequence of participating in sport. By adhering to Hughes and Coakley’s (1991) four factors that deem one as a ‘true athlete,’ one might find themselves conforming to the sport ethic. Conforming to the sport ethic does not happen at one single moment, but rather is something that athletes are socialized into. Another construct that may play a role in conformity to the sport ethic is athletic identity.

**Athletic Identity**

The longer an athlete participates in their sport, and the longer they are socialized into the sport ethic, the athlete may start to develop athletic identity. Brewer et al. (1993) defines athletic identity as the degree to which an individual identifies with the athletic role. Athletic identity is also defined within a cognitive structure and a social role (Horton & Mack, 2000). According to Horton and Mack (2000), the cognitive structure of athletic identity is how an athlete interprets information, copes with certain situations, and behaves. The social role of athletic identity is how the athlete perceives their role and
other’s role within society (Tasiemski et al., 2004). For example, a tennis player might perceive their role in society as being a part of a network filled with other tennis players.

A strong sense of athletic identity can have a positive and or negative impact on the athlete (Brewer et al., 1993). Research has linked higher athletic identity to better health and physical fitness (Marsh, 1993), increased self-esteem (Marsh et al., 1995), and can lead to an increase in participation of physical activity (Danish, 1983). Horton and Mack (2000) verified these findings by evaluating the impact of athletic identity on life priorities and athletic experience. The researchers surveyed 236 marathon runners aged 19-72 years old (176 males and 60 females). Participants were assessed on athletic identity, psychological centrality, positive and negative effects of marathon training, and desire and resolve to continue participating in sport. Athletic identity was linked to more positive psychological results of training. For example, marathon runners with higher athletic identity reported they had higher body image, higher self-confidence, and less anxiety than those with lower levels of athletic identity. Higher levels of athletic identity, compared to lower levels of athletic identity, were also linked to greater enjoyment of running and a greater overall commitment to running. Due to this greater commitment of running, runners created new relationships with other runners, and thus, expanded their social network. Runners with higher athletic identity exhibited the same life priorities as those with lower athletic identity. This suggests that even though runners with higher athletic identity placed a large emphasis on running, they did not let running take priority over other aspects of their life, such as friends and family (Horton & Mack, 2000). In contrast, Linville (1987) argued that if an athlete has higher athletic identity, then they are
not able to make a distinction from who they are as an athlete and who they are as a person, and with more social identities the higher the level of psychological distress. Another negative impact is that higher athletic identity can lead to an overcommitment to a role (Tasiemski et al., 2004). For example, if an athlete is overly devoted to their role (i.e., high athletic identity) and suffers an injury, then the athlete may feel as if their identity is threatened. The injured athlete feels threatened because they are not able to hold their athletic role to the same standard as they did when they were healthy.

An athlete’s athletic identity is significantly related to their attitudes and behaviors towards injury and pain (Weinberg et al., 2013). Weinberg et al. (2013) assessed recreational basketball players’ attitudes towards playing through pain and athletic identity. The researchers grouped participants into three categories based on athletic identity: high, moderate, and low. To be qualified for the high athletic identity group, participant’s score on the Athletic Identity Measure Scale (AIMS) had to put them in the 75th percentile or higher. Participants who scored between the 25th and 75th percentile were put in the moderate group. Participants in the low athletic identity group scored in the 25th percentile or lower. The researchers found that athletes who scored highest in athletic identity displayed more positive attitudes toward playing through pain and injury and revealed higher tendencies to play through pain compared to the other two groups. The moderate athletic identity group indicated higher attitudes and behavioral tendencies to play through pain and injury than the athletes in the lowest athletic identity group. Thus, higher athletic identity was related to greater tendencies to play through pain.
Injury can have many psychological effects on an athlete. Leddy, Lambert, and Ogles (1994) surveyed 343 collegiate athletes to investigate the psychological effects of a physical injury on elite athletes. Participants completed a demographic and training questionnaire along with three other clinical questionnaires that assessed the intensity of common depressive symptoms and attitudes; trait anxiety (general feelings of anxiety) and state anxiety (current feelings of anxiety); and the different aspects of an individual’s self-perceptions level of self-esteem. Athletes who chose to play through pain did so because at the time, the choice seemed like a rational decision. However, the athlete did not anticipate long-term impacts created by the decision to play through pain, such as a debilitating injury occurred. In the moment, choices athletes make, such as playing through pain, may seem like a rational decision, but athletes are not emotionally or psychologically prepared to handle the long-term effects of this choice.

Waldron and White (2008) found similar findings with a sample of collegiate athletes, 67 males and 60 females who competed in a variety of sports (e.g., softball, basketball, swimming, and wrestling). The researchers asked the top three reasons why the athlete decided to play through pain during competition. First, athletes chose to play through pain primarily for themselves. These athletes justified their actions by saying they “wanted and needed to,” “would regret not trying,” and “had never quit anything in my life” (Waldron & White, 2008, p. 3). Others said that they wanted to continually improve in sport, to reach goals, and have the opportunity to play. Second, athletes chose to play through pain because of the nature of sport, such as winning or wanting to prove they are worth what they get paid, fighting for a spot, or to compete at nationals.
Research has demonstrated varied results on the relationship between athletic identity and level of competition. Jessiman-Perreault and Godley (2016) suggested that athletic identity is more significant at higher levels of competition, compared to lower levels of competition. The researchers surveyed 275 university students to understand if students who participate in sport would choose to participate while injured and who or what influenced their decision. Jessiman-Perreault and Godley concluded five factors influenced why respondents were willing to play through pain. First, a culture of risk was linked to conforming to the sport ethic. Second, negative external pressure, meaning the negative influence of others on an athlete. Third, the value placed on sport is related to a strong athletic identity. Fourth, athletes who strive for distinction had higher athletic identity. The authors determined a positive relationship between higher athletic identity and positive influence from others with striving for distinction. The researchers concluded that different groups may be influenced differently by each variable. For instance, respondents at higher levels of competition reported putting a higher emphasis on sports value and strive for distinction leading the authors to suggest that athletic identity has a higher significance at higher levels of competition compared to lower levels of competition. Thus, athletes with high athletic identity display higher willingness to play through pain compared to athletes with low athletic identity (Jessiman-Perreault & Godley, 2016).

Good, Brewer, Petitpas, Van Raalte, and Mahar (1993) surveyed 502 students to observe identity foreclosure and athletic identity across three levels of athletic involvement. Identity foreclosure occurs when people have committed to an occupation
without engaging in exploratory behavior. Participants were grouped into three
categories: intercollegiate student-athletes, intramural athletes, and non-athletes. The
researchers concluded that identity foreclosure scores increased with level of athletic
involvement, as did athletic identity. Thus, perhaps the high demands of competition
discouraged student-athletes from exploring alternate identities.

However, Brown and Hartley (1998) found no significant difference between the
level of sport and sense of athletic identity. To determine the relationship between
athletic identity and career development, Brown and Hartley (1998) surveyed 114 college
male student athletes who participated in Division I or Division II football or basketball.
Participants completed a survey that included a demographic questionnaire, Career
Development Inventory and the AIMS. The study concluded that student athletes who
may become a professional athlete one day are less career mature than those who chose a
different vocation. The researchers did not find a significance between athletic identity
and level of sport. That is, an athlete at an elite level of competition may identify with
their sport at the same level as an athlete in a recreational level of competition. Athletic
identity may help give insight into an athlete’s behavior toward pain and injury, and it is
also important to understand when these behavior changes start to develop.

Based on developmental theory, late childhood through early adulthood is an
important period for identity development (Houle, Brewer, & Kluck, 2010). Houle et al.,
(2010) performed two studies, the purpose of the first study was to investigate athletic
identity trends over a period of time that exceeded five years. College female gymnasts,
aged 18-22 years, completed the AIMS. Participants completed the AIMS retrospectively
for ages 10 years and 15 years old along with their current age. The researchers hypothesized that athletic identity would be higher at age 15 years old than age 10 years old, and to decline from age 15 years old to the participants’ current age. Athletic identity dramatically increased from age 10 years old to age 15 years old. However, no significant increase in athletic identity occurred between age 15 and the current age of the participant. Since this finding did not support the hypothesis, Houle et al. (2010) performed a second study to explain what happens to athletic identity after an athlete stops competing, and what maintains athletic identity when athletes are still involved in competitive sport.

The researchers decided to use an array of participants in the second study to determine if the findings from the first study was due to the participants’ high commitment to sport. A total of 170 college participants represented three groups: former athletes, nonathletes, and current athletes. Former athletes were defined as participants who competed in club or high school sport before coming to college ($n = 112$). Nonathletes were participants who had never participated in sport ($n = 34$). Current athletes were participants who indicated they currently participated in D1 intercollegiate sport, such as tennis, soccer, volleyball, and basketball ($n = 33$). Participants completed the AIMS for retrospective ages of 10 and 15 years along with their current age. Athletic identity for current athletes was found to be significantly higher than former athletes and non-athletes at their current college age. Non-athletes had significantly lower athletic identity across all three ages (10, 15, and current) than former athletes and current athletes. No significant difference emerged in athletic identity between former athletes
and current athletes, at ages 10 and 15 years. Houle et al. (2010) concluded that athletes maintain their athletic identity when they compete because of how invested they are in sport, and after an athlete retires from sport, athletic identity declines.

Athletic identity plays an important role in the sport ethic. Research has shown that the more an athlete identifies within their sport the more likely they are to play through pain and injury (Leddy et al., 1994; Tasiemski et al., 2004; Waldron & White, 2008). Understanding when athletic identity starts to play a role in an athlete’s over-conformity to the sport ethic will offer insight into why young athletes play through pain. In athletics, various situations may cause an athlete to feel overwhelmed, threatened, or pressured to perform at a certain level. These emotions may cause the athlete to fear failure. Thus, another important construct of why athletes play through pain may be fear of failure.

**Fear of Failure**

Fear of failure is defined as the tendency to perceive failure of achieving meaningful goals as threatening to one’s success (Conroy et al., 2002). Failure acquires its meaning from a child’s experiences and observations of the consequences of failing. Thus, infants start life with minimal fear of failure (Birney, Burdick, & Teevan, 1969; as cited in Sagar et al., 2009). Children will experience or observe consequences of failure as they grow, such as criticism. This will increase levels of fear of failure in children. However, some children do not observe aversive consequences with failure, or they adapt coping skills that offset an increase of fear of failure (Conroy, Coatsworth, & Kaye, 2007). Between the ages of 5-9 years old the motive to avoid failure emerges
Greenfield and Teevan (1986) found that children who grew up in environments where love, approval, and affection were rare, experienced greater fear of failure. Singh (1992) found that consistent family conflict can cause children to fear failure. Children learn through communication from figures they develop bonds with, that failure can lead to punishment or removal of affection and approval (Conroy, 2003).

To help measure one’s fear of failure, Conroy (2001) created the Performance Failure Appraisal Inventory. This inventory measures five different beliefs that are associated with fear of failure. First, experiencing shame and embarrassment upon failure. For example, a soccer play may feel humiliated if they miss a penalty kick that would win the game. Thus, athletes avoid failure to prevent feeling humiliated. The second belief is devaluing one’s self-estimate. For instance, if an athlete fails, then they blame themselves. The athlete can place the blame on their lack of talent, effort, or knowledge. The third belief is having an uncertain future. This means if an athlete fails, then they believe they may lose future opportunities, or that they need to change future plans as a consequence of the failure. Fourth, athletes believe that if they fail, then important others will lose interest. This is related to beliefs that if one loses, then they will also lose their social value, affection from others, and their influence in the performance domain. The final belief associated with fear of failure is upsetting important others. If an athlete fails, then they feel important others, such as parents, coaches, or teammates will be disappointed with them (Conroy, 2001).
Conroy et al. (2007) surveyed 97 after-school softball participants, aged 8-18 years old. The primary purpose of the study was to demonstrate the relationship between fear of failure, motivation, anxiety, self-perfections, and level of competence. The secondary purpose of this study was to determine if these relationships stayed consistent from middle childhood to late adolescence. Participants were assessed on fear of failure, motivation anxiety, self-perceptions, and competence within the academic and activity realm. The researchers concluded that with regard to affect and motivation, around the age of 8 years old until young adulthood, fear of failure appears to be characterized by performance anxiety and non-self-determined motivation. Fear of failure showed a moderate-to-strong relationship with participant’s self-perceptions. Lower self-esteem was associated with higher fear of failure. Fear of failure was linked to lower levels of academic and peer competence. The study also validated the PFAI as an accurate measurement to use when measuring fear of failure in children as young as 8 years old.

Correia and Rosado (2018) surveyed 405 Portuguese athletes, aged 12-20 years old, to examine the relationship between fear of failure and anxiety in sport. Participants completed the Performance Failure Appraisal Inventory and the Sport Anxiety Scale. Results of the study concluded a positive relationship between fear of failure and sport anxiety. General fear of failure was found to be a significant indicator of all sport anxiety subscales: somatic anxiety, worry, and concentration disruption.

Many perceived consequences for failure exist within the athletic world. Sagar, Lavallee, and Spray (2007) examined young elite athlete’s perceived consequences of failure. Participants included 11 elite British athletes; aged 14-17 years old. Two athletes
were used for a pilot study, and the remainder 9 (5 males and 4 females) completed
interviews. The interviews were completed individually to allow each participant to
discuss their own experiences freely. From the analysis, the researchers discovered ten
higher-ordered themes of perceived consequences of failure. First, diminished
perceptions of self occurred as a perceived consequence of failure. In this, athletes would
lose self-confidence, believe that failure reduces performance confidence, and become
hostile towards one-self by criticizing and blaming oneself for not playing well. Second,
a lack of achievement, occurs when an athlete loses in a competition, or does not meet a
goal. Thus, they have a lower sense of achievement or satisfaction. Third, the emotional
cost of failure included: negative emotions, negative mood, feeling guilty, and getting
criticized by coaches and parents. Fourth, letting down significant others by not meeting
expectations and upsetting significant others. Upsetting important others is related to
athletes’ perceiving their failures as disappointments to coaches and parents. Fifth,
negative social evaluation, this means that after failure, athletes may perceive reactions
from others as negative, such as negative judgement and low regard from others, loss of
others’ respect, and loss of others’ interest. The sixth high-order theme was a loss of
motivation and dropout. Athletes may feel unmotivated after failure, which may lead to
them quit or dropout of sport. Tangible losses were the seventh theme, and these losses
were perceived a consequence of failure, such as financial losses, or losing a spot in a
tournament.

The eighth theme was having an uncertain future, which were categorized: not
selected and loss of opportunities in the future; hard to get coaching, and failure has
impacts on performance and life beyond sport. Failure can impact life outside of sport, failing can cause one to play bad which can lead to a negative attitude, and the negative attitude can carry over into everyday life. Thoughts of failure reoccurring posits athletes thinking about the possibility of failing again. Lastly, intangible losses were related to losing enjoyment when one fails due to wasted chances, or an increase in the opponent’s confidence. The participants in the study characterized consequences of failure that were perceived as threats and wanted to be avoided.

Early research has identified shame as the core variable for fear of failure, which will encourage avoidance-based behavior (Conroy, 2001). Avoidance-based behavior occurs when an individual consciously or unconsciously avoids a circumstance that makes them uncomfortable because of fear. When individuals cannot avoid failure, they start to lose self-confidence (Sagar et al., 2009). Thus, individuals higher in fear of failure will do anything possible to avoid failing.

Research has shown that worries about the process of performance and the outcome of performance may lead to fear of failure (Sagar et al., 2009). If an athlete does not believe that they will meet the demands needed to achieve goals, then they may feel like their goals are threatened. Sagar et al. (2009) found that athletes reported fear of failure made them anxious, worried, stressed, scared, upset, and tense. These emotions may have a diminishing impact on an athlete’s self-efficacy perceptions for certain tasks, such as not playing well or making mistakes. Sagar et al. (2009) found that athletes increased time and intensity while training and pushed themselves past their limits to avoid failure, and in hopes of improving skills and performance. Thus, with improved
skill level, fear of failure decreases. However, increased training time may not be a reliable response to fear of failure because increased training can lead to detrimental impacts to an athlete’s career and overtraining, which may lead to injury.

Sagar et al. (2011) surveyed 176 male and 155 female British university students to examine whether fear of failure and sport experience predicted antisocial behavior in academic and sporting environments with student athletes. Additionally, differences in sex and antisocial behavior and fear of failure were explored. Participants completed surveys that assessed fear of failure, sport experience, and antisocial behavior. The researchers concluded that fear of failure and an athlete’s sport experience positively predicted a student-athlete’s antisocial behavior in both academic and sport contexts. Female participants reported higher levels of fear of devaluing one’s self-estimate, and male participants reported higher levels of fear of important others losing interest. In both the academic and sporting contexts, males reported engaging in antisocial behavior more commonly than females. Individuals higher in fear of failure may display behaviors that are harmful to themselves and to others. For instance, Sanderson, Weathers, Snedaker, and Gramlich (2016) surveyed 529 females and 314 males. The purpose of this study was to determine why athletes did not report concussions and continued with physical activity. The top reasons for not reporting concussions was the fear of letting teammates and coaches down. This finding supports Sagar et al.’s (2011) finding that high fear of failure can lead to behaviors that are harmful to themselves, as well as Conroy’s (2001) fear of failure by upsetting important others.
Fear of failure can also be created based in the environment a coach creates. Tsai and Chen (2009) surveyed 176 adolescent athletes aged 13-18 years old with different sporting backgrounds to examine the relationship between motivational climate and fear of failure within an athletic framework. Within a motivational climate, two specific environments can be created by the coach: performance climate and mastery climate. In a performance climate, comparison between teammates, normative standards, and winning are seen as significantly important. In a mastery climate, individuals are encouraged to try and expand their abilities, even if they fail. Participants’ reported their perceptions of performance and mastery climates, and fear of failure. The researchers reported a positive relationship between a performance climate and fear of failure. To reduce an athlete’s fear of failure, the researchers emphasized an importance for coaches to be aware of the motivational climate they create.

Fear of failure starts to develop in children between the ages of 5-9 years old because of experiences and observations of the consequences of failing (McClelland, 1958; as cited in Sagar et al., 2009). Understanding why fear of failure develops is important because of the aversive consequences fear of failure can have on an athlete, such as overtraining (Sagar et al., 2009). The motivational climate a coach creates impacts how athletes perceive failure (Tsai & Chen, 2009). Athletes tend to have higher fear of failure in a performance climate compared to a mastery climate because in a performance climate athletes are put under stress to not make mistakes and win (Tsai & Chen, 2009).
Gómez-López, Ruiz-Sánchez, and Granero-Gallegos (n.d.) analyzed the relationship between motivational climate and fear of failure in players based on gender and sports experience. The secondary purpose was to determine the extent to which motivational climates predict the different causes of fear of failure. Participants included 479 handball players aged 16-17 years old. The researchers concluded that higher perceptions of a mastery climate were positively related to higher enjoyment of practice and competition, and less competitive anxiety. Coach-and peer-mastery climates were negatively related to fear of failure, and coach-and peer-performance climates were positively related to fear of feeling shame and devaluing oneself. Peer performance climates predicted greater fear of feeling shame. Coach-performance climate predicted higher perceptions of devaluing one’s self-estimate, having an uncertain future, important others losing interest, and upsetting important others. Thus, if coaches and peers influence fear of failure, they also influence athletes’ decision to play through pain and conform to the sport ethic.

**Social Influences**

For the purpose of this study, social influence is defined as the impact of others, such as family, friends, coaches, and teammates, on one’s behavior and emotions. For example, social influences can be a source of competence information. Malcom (2006) discovered that teammates have an impact on each other’s behaviors; specifically experienced on non-experienced athletes. For instance, Malcom observed different occasions when an athlete became injured during practice and complained about the injury or pain, then a fellow teammate would belittle the injured athlete by rolling their
eyes, ignoring the injured athlete’s comments, or telling the injured athlete to “stop complaining.” Typically, the older or more experienced an athlete is on the team, the higher their status was on the team. The source of competence information changes with age. Weiss, Ebbeck, and Horn (1997) found that athletes aged 8-9 years old preferred parents as a competence source, and perceived higher pressure from parents to play through pain. The researchers also found that athletes aged 10-13 years old preferred social comparison/evaluation as a competence source, and perceived higher pressure from peers to play through pain. Thus, both parents and teammates have an impact on an athlete’s decision to play through pain.

Fenton and Pitter (2010) found similar findings to Malcom’s through their observation of high school and college aged rugby players. The researchers observed that an athlete’s status on the team has an impact on the kind of attention that will be received for playing through pain (Fenton & Pitter, 2010). A “low-status” athlete did not receive the same recognition as a high-status athlete. Thus, low-status athletes felt the need to play through pain to gain the respect of their fellow teammates. “Medium-status” athletes concerned themselves with other medium status players; specifically, what injuries their cohorts were battling and how they chose to cope with the injuries. When a “high-status” athlete was hurt and played through pain, their teammates looked at the action with respect. However, if a high-status athlete stopped playing due to an injury, then the team did not second guess the player’s loyalty or status to the team (Fenton & Pitter, 2010).

Teammates are not the only influence on an athlete. Within an athlete’s career, they will form a sportsnet. Nixon (1992) defines a sportsnet as the relationship and
influences an athlete builds and has during their athletic career. These include physical therapists, doctors, coaches, recruiters, athletic trainers, and judges/referees. Coaches and parents have the strongest influences on an athlete’s motivation because of the authoritative position they are in from the athlete’s perspective (Keegan, Harwood, Spray, & Lavallee, 2009). Stafford, Alexander, and Fry (2013) examined children and young people’s experience with coaches who use their authoritative position to have athletes conform to the sport ethic. Stafford et al. (2013) found that young people at higher competitive levels were most likely to report being forced to continue to train while being exhausted or injured. Aggressive treatment, such as being shoved, was recorded more often in recreational leagues than competitive leagues. A sport ethic culture of “it is okay to play through pain” became normalized throughout the season for athletes and their families.

Stafford et al. (2013) and Nixon (1994) stated that coaches need to make an effort to reduce injury in sport and conformity to the sport ethic. Coaches are in an authoritative position to impact athletes. More specifically, athletes may feel pressure to play through pain because of how coaches socialize athletes into the competitive sport culture.

To measure the impact a coach or athletic trainer had on an athlete’s behavior, Jessiman-Perreault and Godley (2016) surveyed a total of 275 students including 239 participants who had participated in a sport within the last year. The researchers found that 70% of respondents said they would play through an injury, even if it required medical attention. The two primary reasons for playing through an injury were because the athlete was encouraged to play, and the injured athlete perceived it as their duty to
play. Participants with a coach or athletic trainer were found to be more willing to play through an injury compared to those without a coach or athletic trainer. A coach’s actions have an impact on an athlete’s behavior. Athletes may believe that it is a decision they make on their own to play through pain. However, literature (Jessiman-Perreault & Godley, 2016; Tsai & Chen, 2009) has shown that an athlete’s socialization in the sport ethic may lead the athlete to believe the only choice is to continue to play through pain.

**Conclusion**

Literature suggests that conformity to the sport ethic, athletic identity, fear of failure, and social influences are variables that play a factor in why athletes play through pain (Conroy, 2001; Conroy et al., 2007; Good, et al., 1993; Jessiman-Perreault & Godley, 2016; Malcom, 2006; Sagar et al., 2009; Stafford et al., 2013; Waldron & White, 2008). Athletes are taught how to cope with pain by being socialized into different coping strategies, such as ignoring pain, playing it off, or creating a distraction from the pain (Anderson & Hanrahan, 2008). The more an athlete identifies to their sport, the more willing the athlete is to conform to the sport ethic (Leddy, et al. 1994; Weinberg et al., 2013). Specifically, the athlete may feel if they are not able to compete, then a sense of identity may be lost (Tasiemski et al., 2004).

Fear of failure in athletes can lead to overtraining; athletes may believe that overtraining will increase skill which will decrease chances of failure, but overtraining may increase the possibility of injury (Sagar et al., 2009). Social influences have an impact on an athlete’s decision to play through pain. Athletes may feel a sense of obligation to play through pain because the athlete does not want to disappoint significant
others (Conroy, 2001). Current literature within the concept of athletes playing through pain have a primary focus on why elite athletes play through pain and the factors that play into that decision (Brewer et al., 1993; Fenton & Pitter, 2010; Jessiman-Perreault & Godley, 2016; Keegan et al., 2009; Malcom, 2006; Sanderson et al., 2016; Weinberg et al., 2013). Thus, the purpose of this study was to examine why young athletes play through pain.
CHAPTER 3

METHODOLOGY

The purpose of this study was to examine young athletes’ athletic identity, fear of failure, and how an athlete’s social influences impacts the decision to play through pain.

Participants

Participants for this study included 140 male (n = 46) and female (n = 93) young athletes, aged 11-18 years old (M = 13.56, SD = 1.60) in grades 5-8 (61.5%) and 9-12 (38.5%). Participants were recruited from sport club organizations, recreational centers, and a public school in Northeast Iowa. An array of primary sports was recorded for participants that included: 22.9% volleyball, 17.9% gymnastics, 10.7% baseball, and 7.1% soccer. Participation in sport ranged from 1-13 years (M = 6.81, SD = 3.0), and hours a week practicing ranged from 1-20 hours (M = 7.87, SD = 5.29).

Measures

Demographic Questionnaire

The demographic questionnaire included items such as: participant’s age, grade, gender, sport competing in, length of time in sport, number of hours of practice each week, and primary or favorite sport.

Risk of Pain and Injury Questionnaire

Participants completed the Risk of Pain and Injury Questionnaire created by Walk and Wiersma (2005). The questionnaire had a total of 13-items with three sub-scales: (a) Tough (items reflected the athlete’s approval of withstanding the risks of pain, and injury in sport); (b) Social Role Choice (items assessed an athlete’s willingness to accept risk,
pain, and injury as part of sport); and (c) Pressed (items reflected an athlete’s perceptions of pressure by coaches to play through pain or injury). In order to assess perceived pressure from parents and teammates, eight additional items were included, four items per source. These items were created using the same questions about pressure from the coach, but “parents” and “teammates” were identified in the items. The final measure consisted of 21-items.

The response format was a 4-point Likert-type scale, with responses ranging from 1 “strongly disagree” to 4 “strongly agree.” For example, a question from the tough subscale was “Athletes should ignore the pain.” An example from the social role choice subscale was “Every athlete should expect to have to play with an injury or pain sometime.” Lastly, examples from the pressed subscale included: “Coaches are impressed with those who play with injuries and pain,” “My parents make me feel guilty if I don’t want to play hurt or injured,” and “My teammates only care about players who are healthy and able to play.” This measure achieved adequate reliability and validity in past studies (Jessiman-Perreault & Godley, 2016; Walk & Wiersma, 2005; Weinberg et al., 2013).

**Athletic Identity**

Participants completed the Athletic Identity Measurement Scale (AIMS) created by Brewer et al. (1993). The AIMS is a 10-question scale that assessed how much athletes identified with their sport. The response format was a 7-point Likert-type scale, with responses ranging from 1 “strongly disagree” to 7 “strongly agree.” An example question was “Sport is an important part of my life.” This measure achieved adequate
validity and reliability in past studies with similar age groups (Daniels, Sincharoen, & Leaper, 2005; Wiechman & Williams, 1997).

**Fear of Failure**

Participants completed the Performance Failure Appraisal Inventory (PFAI) (Conroy et al., 2002). Three dimensions of fear of failure were assessed in the current study: fear of devaluing one’s self-estimate, fear of upsetting important others, and fear of important others losing interest (Conroy et al., 2002). A total of 15 items (5 items per subscale) using a response format on a 5-point Likert-type scale, with responses ranging from 1 “Do not believe at all” to 5 “Believe 100% of the time” were used. Example items for each subscale included: “When I am not succeeding, I get down on myself easily,” (devaluing one’s self-estimate); “When I am not succeeding, my value decreases for some people,” (important others losing interest); and “When I am failing, important others are disappointed” (upsetting important others). This measure achieved adequate validity and reliability in past studies with similar age groups (Conroy et al., 2007; Conroy & Coatsworth, 2007; Tsai & Chen, 2009).

**Procedure**

Following IRB approval, a pilot study was conducted with a group of 11-year old athletes \((n = 5)\), representing the youngest participants that might participate, to assist with determining reading comprehension of the items. All pilot study participants were currently in the 6th grade. Based on the pilot study, no modifications were made.

In order to recruit participants for this study, the researcher sought cooperation from managers of youth sport organizations and principals from public schools. After the
letter of cooperation was received, the researcher then contacted individual coaches within each organization and athletic directors within each school to seek cooperation and permission to recruit athletes. After permission was granted, the researcher met with potential participants before, during, or after a practice, and invited them to participate. During this meeting, the researcher explained what was expected of the athlete if they chose to participate. In the initial meeting, athletes received a parent packet that included a description and purpose of the study and two copies of the parental consent form. Only the athletes who returned a signed parental consent form were allowed to complete the questionnaire.

The researcher returned approximately one week later and administered the survey at a time that was agreed upon between the coach and the researcher. Coaches and parents were not allowed to answer the questionnaire with the athlete. If an athlete did not return a signed parental consent form, they were given a questionnaire to maintain privacy, however these athletes usually continued practice. At the beginning of the survey, the researcher read through a child assent form with participants and answered any questions, participants then signed the assent form. Then, the researcher explained directions for the questionnaire and read the first question to the participants, and participants circled the answer they thought best described how they felt. After completing the first question together, participants completed the rest of the questionnaire. Participants completed the questionnaire under the supervision of the researcher, who was available to answer any questions. The questionnaire took approximately 15-30 minutes to complete for all participants.
Data Analysis

All data was analyzed using SPSS. Preliminary analyses included frequencies, descriptives, and reliabilities. Frequency analyses included sex, ethnicity, if the participant played multiple sports, participant’s primary sport, and the level of competition the participant hoped to achieve in the future. Descriptive analyses included age, current grade in school, how many years participants had been playing their primary sport, and how many hours they practiced a week during the peak of their season. To determine the relationship between an athlete’s approval of withstanding the risks of pain and injury in sport, athletic identity, fear of failure, and perceived pressure by coaches, parents, and teammates to play through pain, a Pearson correlation was conducted.

To examine differences in playing through pain based on athletic identity, a MANOVA was conducted. Athletes were categorized into three groups based on athletic identity scores, using a quartile split. Participants categorized into the high athletic identity group consisted of the top 25%. Participants categorized in the moderate athletic identity group consisted of those in the middle 50%. Lastly, participants categorized in the low athletic identity group consisted of those in the bottom 25%. These groups were compared on the “tough” and “pressed” subscale of the Risk of Pain and Injury Questionnaire. Follow up Post-hoc Tukey tests were conducted to determine which groups were significantly higher or lower on the tough and social influence subscale.

To determine which age group perceived greater pressure to play through pain from significant others, an ANOVA was conducted. First, participants were grouped by grade: grades 5-8 were group 1 and grades 9-12 were group 2. The independent variable
was age group and the dependent variable was perceived pressure to play through pain from significant others.

To determine the strongest predictors of playing through pain, a simultaneous multiple regression was conducted. The predictor variables were athletic identity, fear of devaluing one’s self-estimate, fear of important others losing interest, fear of upsetting important others, and perceived pressure to play through pain from coaches, teammates, and parents. The criterion variable was the “tough” subscale of the Risk of Pain and Injury Questionnaire. All analyses used $p \leq 0.5$ as level of significance.
CHAPTER 4
RESULTS

Preliminary Analyses

Reliability analyses were conducted for each subscale. The Risk of Pain and Injury Questionnaire originally consisted of three subscales: tough, pressed, and social role choice. For pressed, parents, teammates, and coaches were intended to be separate subscales. However, initial reliability analyses revealed low reliability for each: parents $\alpha = .40$, coaches $\alpha = .34$, and teammates $\alpha = .51$. Thus, the decision was made to combine all the sources to create one subscale titled “perceived pressure from significant others to play through pain.” This improved the reliability to $\alpha = .72$. For the tough subscale, the reliability was $\alpha = .65$. Reliability analyses for the social role choice subscale revealed low reliability of $\alpha = .59$. Due to low item-correlations, this scale was deemed unreliable and was not used in further analyses.

Fear of failure consisted of three subscales: fear of devaluing one’s self-estimate, fear of important others losing interest, and fear of upsetting important others. All fear of failure subscales achieved adequate reliability: fear of devaluing one’s self-estimate ($\alpha = .77$), fear of important others losing interest ($\alpha = .81$), and fear of upsetting important others ($\alpha = .72$). Lastly, for athletic identity the reliability was $\alpha = .80$.

Relationship between Constructs

To determine the relationship between athletes’ approval of withstanding the risks of pain and injury in sport, athletic identity, fear of failure, and perceived pressure by significant others to play through pain, a Pearson correlation was conducted. Athletes’
approval of withstanding the risks of pain and injury in sport was weakly, positively related to perceived pressure from significant others to play through pain ($r = .22$), and to athletic identity ($r = .28$). Athletes’ approval of withstanding the risks of pain and injury in sport was weakly, negatively related to fear of devaluing one’s self-estimate ($r = -.02$), fear of important others losing interest ($r = -.03$), and fear of upsetting important others ($r = -.08$).

Perceived pressure from significant others to play through pain was weakly, positively related to how much an athlete identified to the athlete role ($r = .17$). Perceived pressure from significant others to play through pain was moderately, positively related to fear of devaluing one’s self-estimate ($r = .37$). Perceived pressure from significant others to play through pain was moderately, positively related to fear of important others’ losing interest ($r = .51$), and to fear of upsetting important others ($r = .41$). Athletic identity was weakly, positively related to fear of devaluing one’s self-estimate ($r = .10$), fear of important others losing interest ($r = .02$), and fear of upsetting important others ($r = .13$). As expected, fear of devaluing one’s self-estimate was strongly, positively related to fear of important others losing interest ($r = .81$). Fear of devaluing one’s self-estimate was moderately, positively related to fear of upsetting important others ($r = .70$). Fear of important others losing interest was strongly, positively related to fear of upsetting important others ($r = .72$). Correlations, means, and standard deviations for each variable are presented in Table 1, with the alpha coefficients for each scale along the diagonal.
Table 1

*Correlation is significant at the 0.05 level.

Differences between Athletes with Varying Athletic Identity

To examine differences in athletes’ approval of withstanding the risks of pain and injury in sport based on athletic identity, a MANOVA was conducted. Athletes were categorized into three groups based on athletic identity scores, using a quartile split.
Participants categorized into the high athletic identity group scored in the top 25%, which consisted of 36 participants, who had a minimum mean score of 5.90 and a maximum mean score of 7.00 ($M = 6.82, SD = .35$). Participants categorized in the moderate athletic identity group were the middle 50%, which consisted of 69 participants, who scored a minimum mean score of 4.90, and a maximum mean score of 5.80 ($M = 5.22, SD = .36$). Lastly, participants categorized in the low athletic identity group were in the lower 25% and consisted of 35 participants who had a minimum mean score of 2.50, and a maximum mean score of 4.60 ($M = 3.97, SD = .53$). These groups were then compared on the tough subscale and perceived pressure from significant others to play through pain. The MANOVA was significant: Wilks’ $\lambda = .89$, $F(4, 272) = 4.03$, $p \leq .005$, with an effect size of .11. This suggests that 11% of athletic identity group variance was accounted for by perceived pressure to play through pain.

Post-hoc Tukey tests were conducted to determine which groups were significantly higher or lower on the tough and perceived pressure from significant others to play through pain subscale. The high athletic identity group reported significantly higher approval of withstanding the risks of pain and injury in sport and perceived greater pressure to play through pain from significant others compared to the other two groups. The moderate and low athletic identity groups did not differ from each other. Table 2 shows athletic identity groups’ means and standard deviations on athletes’ approval of withstanding the risks of pain and injury in sport, and the perceived pressure they felt to play through pain from significant others.
Table 2

Athletic identity group’s means and standard deviations

<table>
<thead>
<tr>
<th>Variable</th>
<th>High AI Group (n = 36)</th>
<th>Moderate AI Group (n = 69)</th>
<th>Low AI Group (n = 35)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Tough</td>
<td>2.61a</td>
<td>.67</td>
<td>2.33b</td>
</tr>
<tr>
<td>Perceived Pressure</td>
<td>2.06a</td>
<td>.42</td>
<td>1.85b</td>
</tr>
</tbody>
</table>

Note: a, b indicates significant differences at $p \leq .05$
AI = Athletic Identity

Age Related Difference on Perceived Pressure to Play Through Pain

To determine age related differences on perceived pressure to play through pain from significant others, an ANOVA was conducted. First, participants were grouped based on current grade in school: grades 5-8 were group 1 (n = 86) with ages ranging from 11-14 years old; and grades 9-12 were group 2 (n = 54) with an age range of 14-18 years old. The independent variable was grade in school and the dependent variable was perceived pressure to play through pain from significant others. The ANOVA was not significant: $F (1, 138) = 1.69, p = 0.20$. Athletes in grades 5-8 ($M = 1.86, SD = .42$) did not differ from athletes in grades 9-12 ($M = 1.96, SD = .42$) on perceptions of pressure to play through pain from significant others.

Strongest Predictors of Withstanding the Risks of Pain and Injury in Sport

To determine the strongest predictors of athletes’ approval of withstanding the risks of pain and injury in sport, a simultaneous multiple regression was conducted. The predictor variables were athletic identity, fear of devaluing one’s self-estimate, fear of important others losing interest, fear of upsetting important others, and perceived pressure to play through pain from coaches, teammates, and parents. The criterion
variable was the “tough” subscale of the Risk of Pain and Injury Questionnaire. The multiple regression was significant $F (5, 2340) = 5.02, p \leq .0001$. The effect size was .16, thus 16% of the variance of an athlete’s approval of withstanding the risks of pain and injury in sport was accounted for by fear of devaluing one’s self-estimate, fear of upsetting important others, fear of important others losing interest, athletic identity, and social influence. Higher athletic identity ($\beta = .26$) and higher perceived pressure from significant others to play through pain ($\beta = .30$) predicted greater approval from athletes with withstanding the risks of pain and injury in sport.
CHAPTER 5

Discussion

The primary purpose of this paper was to identify factors that influence young athletes’ conformity to the sport ethic by playing through pain. Factors that could play a role in an athlete’s decision to play through pain include athletic identity, fear of failure, and perceived pressure from important others to play through pain (Jessiman-Perreault & Godley, 2016; Nixon, 1994).

The first research question was to determine the relationship between athletes’ approval of withstanding the risks of pain and injury in sport, athletic identity, fear of failure, and perceived pressure from coaches, parents, and teammates. The researcher hypothesized that (a) higher athletic identity would be positively related to greater approval of withstanding the risks of pain and injury in sport, (b) higher fear of failure would be positively related to greater approval of withstanding the risks of pain and injury in sport, and (c) higher perceived pressure to play through pain would be positively related to greater approval of withstanding the risks of pain and injury in sport. Findings from this study supported the hypothesis that higher athletic identity would be positively related to greater approval of withstanding the risks of pain and injury in sport. Additionally, higher perceived pressure to play through pain would be positively related to greater approval of withstanding the risks of pain and injury in sport. These findings are consistent with past research (Fenton & Pitter, 2010; Jessiman-Perreault & Godley, 2016; Malcom, 2006; Nixon, 1993, 1994; Weinberg et al., 2013). Findings from the
current study did not support the hypothesized relationship between fear of failure and an athlete’s approval of withstanding the risks of pain and injury in sport.

Nixon (1993) found through an athlete’s socialization in sport from parents, teammates, and coaches, athletes become more willing to accept the risks, pain, and injuries of sport. Through an athlete’s sportsnet, they are introduced and encouraged to adhere to the messages within the sport culture to accept the risks of playing through pain (Nixon 1994). This encouragement puts pressure on athletes to play through pain from their sportsnet figures, which includes significant others. Thus, an increase in perceived pressure to play through pain, may lead to an increase in an athlete’s approval of withstanding the risks of pain and injury in sport.

One reason why perceived pressure from significant others to play through pain was positively related to an athletes’ approval of withstanding the risks of pain and injury in sport could be the influence of teammates. An athlete who has just begun participating in a sport is not likely to automatically accept the risks of pain and injury in sport. They may have not been socialized yet into believing that these are sacrifices that need to be made if one wants to excel at sport. Whereas an athlete who has played the sport for a couple of years may be more likely to exhibit the behaviors of playing through pain and believe that this behavior is necessary.

Athletic identity was significantly related to attitudes and behaviors towards pain and injury, similar to past research (Weinberg et al., 2013). Athletes’ participate in a sport culture that consists of different criteria that need to be met in order to be deemed a “true athlete.” One of these criteria is accepting risks and playing through pain (Hughes &
Coakley, 1991). Therefore, an athlete who identifies with the athlete role probably accepts the idea of injury as a part of sport. An athlete with higher athletic identity may believe they must play through pain due to the culture of risk in sport that encourages the normalization of injury and pain (Nixon, 1993). This culture of risk also emphasizes that sport should always come before anything else, and athletes need to do everything in their power to participate, even if that means playing through pain.

The researcher hypothesized that athletes with higher athletic identity will exhibit greater approval for withstanding the risks of pain and injury in sport compared to athletes with lower athletic identity. Findings supported this hypothesis. Higher athletic identity athletes reported greater approval of the risks of pain and injury in sport compared to the moderate and low athletic identity groups. These findings are consistent with prior research (Brewer et al., 1993; Jessiman-Perreault & Godley, 2016; Malcom, 2006; Weinberg et al., 2013). Malcom (2006) found that the more an athlete identified with sport, the more willing they were to ignore pain and play through injury. Jessiman-Perreault and Godley (2016) found that a strong athletic identity led to a higher willingness to play through pain. An athlete that has high athletic identity is highly invested to the athlete role, so they are likely to spend more time within the sport culture and adhere to the culture of risk (Weinberg et al., 2013). Due to more time and experience in the sport culture, athletes become conditioned to believe that they have to play through pain. Not playing or competing due to pain or injury may threaten their identity and a sense of self-worth (Tasiemski et al., 2004). Therefore, athletes with higher athletic identity may show greater approval of withstanding the risks of pain and injury in
sport in order to maintain their identity as an athlete compared to athletes whose identity is less unidimensional or not as tied to the athlete role.

One reason why athletes with higher athletic identity expressed greater approval of withstanding the risks of pain and injury in sport could be due to the amount of time spent in sport. An athlete who has participated in soccer for 8 years has been socialized into believing that soccer needs to come before anything else. The athlete probably spends more time participating in soccer compared to other activities, such as hanging out with friends or participating in other school activities. This athlete has continuously invested time, money, and energy into soccer which will only increase their identity is a soccer player. Due to their high investment into the athlete role, the soccer player will probably approve of taking risks and enduring pain. Thus, sitting out for an injury or because something hurts is not an option and threatens their identity. Whereas a soccer player who has only participated in the sport for a brief time has not invested as much time, money, or energy into the sport, so they may not identify as much as an athlete. Due to this lower athletic identity, the athlete will not be as threatened by an injury or idea of not playing, thus they may be less inclined to believe they should play through pain.

The third research question of the current study was to determine if older athletes perceived greater pressure from significant others to play through pain compared to younger athletes. The researcher hypothesized that athletes in grades 9-12 would perceive greater pressure from significant others to play through pain than athletes in grades 5-8. Findings from this study did not support this hypothesis, in that no differences emerged between the younger and older athletes on perceived pressure from significant others to
play through pain. This finding is in contrast to prior research (Higginson, 1985; Weiss et al., 1997). Athletes aged 8-9 years old perceived higher pressure from parents to play through pain, compared to athletes aged 10-13 years old, who perceived higher pressure from teammates to play through pain (Weiss et al., 1997). Higginson (1985) found that in an athlete’s preadolescent years, parents are the primary source of influence. However, when an athlete reaches adolescence the biggest influence shifts from parents to coaches and teammates.

One possible explanation why a difference was not found in the current study is because a majority of the sample were private club athletes. Athletes in private clubs may have higher investments in their sport compared to recreational athletes. These investments include more training time, tournaments, possible private training, and higher expenses. Due to this higher involvement in sport, these athletes may perceive similar pressure to play through pain across age groups. For example, a 10-year old athlete who is starting their tennis sporting career at a private tennis club may perceive pressure to play through pain from parents because of how much the parent is investing. Parents will pay different expenses such as travel, equipment, and private lessons. The parent also uses their time to drive the young athlete to and from practices, meets, and tournaments. These investments are a continuous aspect of playing for the private tennis club as the athlete develops. Due to the high investments, parents may be more inclined to place pressure on the athlete to play through pain.

The researcher hypothesized that athletic identity would emerge as the strongest predictor for greater expressed toughness in regard to risk, pain, and injury. Findings did
not support the hypothesis. Perceived pressure from significant others to play through pain emerged as the strongest predictor for approval of withstanding the risks of pain and injury in sport, however athletic identity emerged as the second strongest predictor. This finding is consistent with past research (Brewer et al., 1993; Fenton & Pitter, 2010; Jessiman-Perreault & Godley, 2016; Malcom, 2006; Nixon, 1992; Weinberg et al., 2013). Jessiman-Perreault and Godley (2016) found that both athletic identity and negative external pressure increased an athlete’s willingness to play through pain. Brewer et al. (1993) found athletes with athletic identity have more motivation to play through pain because playing through pain maintains their athletic identity. Nixon (1992) stated that throughout an athlete’s sporting career significant others may pressure athletes to adhere to the sport ethic culture of risk and normalizing the act of playing through pain.

Significant others are important and large influences on the start of an athlete’s sporting career. For example, if a parent was successful in softball, they may put their child in softball at a young age in hopes of the child becoming successful. The parent may have high expectations for their child to excel in softball. These expectations could include their child becoming the best player on the team, displaying a great amount of skill at a young age, or showing strong perseverance when faced with pain and injury. The parent knows for these expectations to be met, the child needs to continuously practice, so the parent will invest a lot of time and money into their child’s softball career. A parent who has high expectations and has invested a lot of time and money into their child’s sporting career may also express greater pressure to play through pain than a
parent who does not have the same expectations and low investments in their child’s sporting career.

Significant others play an important role in how athletes are socialized into the sport ethic, and more importantly, how they are socialized into the culture of risk within the sport ethic (Nixon, 1992). Within the sport ethic, certain criteria that need to be met in order to be considered a “real athlete” (Hughes & Coakley, 1991). Since an athlete with high athletic identity will do everything possible to maintain this identity (Brewer et al., 1993), they will strive to meet the criteria that deems them an athlete. Thus, both pressure from significant others to play through pain, which can impact an athlete’s socialization into the sport ethic, and an athlete’s athletic identity, which can be determined by meeting the necessary criteria within the sport ethic, play a significant part in an athlete’s expressed approval of withstanding the risks of pain and injury in sport.

Limitations and Future Research

The current study had some limitations. One limitation was that the ‘social role choice’ subscale of the Risk of Pain and Injury Questionnaire did not result in adequate reliability, so the decision was made to not use the subscale in any analyses. Past research has shown this subscale to be reliable (Jessiman-Perreault & Godley, 2016; Walk & Wiersma, 2005; Weinberg et al., 2013). However, these studies used an older, university-based sample. Future research might benefit from using this subscale as a measure of an athlete’s willingness to play through pain with an older sample, or an age-appropriate scale for younger athletes could be developed.
A second limitation was that perceived pressure from coaches, parents, and teammates, when measured individually, resulted in low reliability. The Risk of Pain and Injury Questionnaire originally only measured perceived pressure from coaches to play through pain. To measure perceived pressure from parents and teammates, the word “coaches” was replaced with “parents” or “teammates” for each question, creating three different scales. The low reliability of the different subscales could be due to participant’s varied answers within each subscale. Since each subscale only consisted of 4 questions, the range of answers were too great, thus the scales were deemed unreliable. However, when the subscales were combined to create the “perceived pressure from significant others to play through pain” subscale, this combined all 12 questions together. Thus, the variations in answers were not as great as they had been when each subscale only consisted of 4 questions. Since the coach subscale was the original subscale in the RPIQ and did not have an adequate reliability, future research should aim to determine a minimum age in which the “Pressed” subscale can be used to measure perceived pressure to play through pain from coaches. Future research would also benefit from creating a measure that assesses perceived pressure from parents, coaches, and teammates to play through pain in young athletes.

A third limitation of the current study was that competitive level of the participants were not considered. An athlete who competes at a high competitive level may display higher athletic identity, fear of failure, and perceive greater pressure from significant others to play through pain compared to an athlete who competes in a recreational league. Athletes at higher competitive levels invest more time and energy in
training and practices compared to athletes at lower competitive levels. Parents of athletes who compete at higher levels may pressure their athlete to play through pain due to the amount of investment they have in their child’s athletic career, such as time for practice, private training sessions, games, tournaments, and expenses for uniforms, travel, and equipment. Whereas a parent of an athlete who competes in a recreational league does not have as much invested into their child’s athletic career, so they may not put as much pressure on their athlete to play through pain. Thus, future research may want to use a homogeneous sample of high-level youth sport participants to further explore the role of significant others, athletic identity, and fear of failure in relation to playing through pain. Another potential limitation of the current study is that participants consisted of athletes who were currently participating in spring sports. Athletes were asked to answer the questionnaire for their “primary” sport, not necessarily the sport they were currently competing in. Thus, athletes may respond differently if they were in-season. Data collection in fall, winter, spring, and summer sports may result in significant relationships that were not shown in the current study.

A final limitation of the study could be the motivation to respond truthfully. For example, athletes were asked to self-report from the previous six months of their sporting career, which could have led to non-accurate responses due to selective memory of past events, exaggeration, or remembering another athlete’s experiences as their own. Participants could have felt there were right or wrong answers to the questionnaire or felt pressured to respond a certain way. The researcher conducted a pilot study to assure a proper readability level throughout the questionnaire, but some athletes may have
struggled to fully comprehend the questions. Due to the length of the questionnaire, some participants may have become bored or felt rushed, and this could have led to non-accurate responses. Clearly stating instructions, allowing adequate time to complete the survey, and reminding participants they can ask questions at any time may help eliminate this limitation.

Future research should aim to examine the relationship between team sports and athletic identity, fear of failure, and perceived pressure from significant others to play through pain compared to the relationship between individual sports and athletic identity, fear of failure, and perceived pressure from significant others to play through pain. Secondly, future research should examine all five themes of fear of failure and their relationship to motivation to express toughness in regard to risk, pain, and injury. Finally, the relationship between fear of failure and perceived pressure to play through pain should be further explored.

**Practical Implications**

Sport psychologists, coaches, and parents can use this information to encourage athletes to find passions beyond the ‘athlete role.’ By developing different interests, athletes who cannot play due to pain or injury, will be able to invest time into another activity or interest until they are healthy and able to return to sport. For example, an athlete may be highly dedicated to soccer, but also have a passion for art and reading. If this athlete were to fracture an ankle, then the athlete will not be able to practice as much, so the athlete could invest this new time into becoming a better artist or reading a new
book. Thus, the athlete may be less likely to display the behavior of playing through pain because their identity is not strictly determined by being an athlete.

Risk, pain, and injury will not be eliminated from sport. Therefore, the second practical implication is open communication with coaches and parents when the athlete is feeling pressured to play through pain. Coaches should also aim to create a mastery climate. In this type of motivational climate, coaches encourage athletes to expand their skills because failure is recognized as being vital for growth. In a performance climate, coaches focus on winning and playing the best players to ensure a win (Tsai & Chen, 2009). Within a mastery climate, coaches are more likely to form relationships with all of the athletes on the team, not just the star players (Smith & Smoll, 2017). Forming relationships with athletes may play an important part with athletes feeling more comfortable in communicating about pain and injury.

For example, an athlete who has played for a coach who has created a performance climate is more likely to constantly strive for the coach to pay attention to them. This athlete may put in extra training hours to become one of the star players. During practice one day, the coach may start to interact with the athlete more, and the athlete could state to feel a sense of pride. However, all of the extra training hours may result in an overuse injury in the athlete. Since the athlete is just now forming a relationship with the coach, the athlete will not tell the coach about being the pain for fear of losing the new relationship. Whereas, an athlete who has played for a coach who has created a mastery climate is likely to have a relationship with the coach that is not based on being the best player, rather the relationship could be because the coach values the
athlete’s role on the team. This athlete may not feel they are sacrificing their relationship with the coach if they voice, they do not want to play because they are in pain.

A third implication is that coaches should also encourage unity within their team. The coach can encourage a sense of unity by creating different activities for the team to do together, such as a team dinner the night before a big game, team scavenger hunt, or taking the team to support other local teams. A strong sense of unity may make an athlete who cannot play due to pain still feel they are vital role to the team. While a sense of unity may not take away an injured athlete’s disappointment in not being able to play, the athlete will know that the team is not questioning the athlete’s loyalty to the team.

A final practical implication is that parents should allow their athlete to attend practices and games if their athlete is hurt. An athlete who is able to attend practices and games will feel a sense purpose. An injured athlete can still be engaged with their team, such as assisting during practice or cheering on their team during games. An athlete who feels they still play an important role on their team may not experience loss of a sense of self-worth, or their identity may not be as threatened. Parents should also acknowledge the different emotions the athlete may feel, such as disappointment or failure, when they cannot play. Acknowledging these emotions and listening to the athlete may not make these emotions disappear, but the athlete may not feel alone (Bach, 2020). For example, if an athlete becomes injured during a game and is not able to play, the parent might start a conversation by saying, “I know you are disappointed with not being able to finish your game and even though we do not know what the future looks like, I am here to listen to you. How can I help?” This will allow the athlete to express their frustration or
disappointment and supported on their road to recovery. These practical implications will encourage athletes to enjoy their time in sport without feeling pressured, from significant others, to play through pain.

**Conclusions**

Athletic identity, fear of devaluing one’s self-estimate, fear of important others losing interest, fear of upsetting important others, and approval of withstanding the risks of pain and injury in sport are all positively related to perceived pressure from significant others to play through pain. Perceived pressure from significant others and athletic identity predict an athlete’s approval of withstanding the risks of pain and injury in sport. Playing through pain can be problematic for athletes because of the adverse consequences that follow, such as career ending injuries or opportunity losses. This research study aimed to better understand how athletic identity, fear of failure, and perceived pressure from significant others to play through pain play a role in an athlete’s decision to play through pain.
REFERENCES


APPENDIX A

MEASURES

Demographics

Directions: Please answer the following questions with answers that best describe you.
1. What is your age?
   a. _______________

2. Which of the following do you identify with the best?
   a. Female
   b. Male
   c. Transgender
   d. Other: _______________

3. Which of the following best describes you?
   a. Black or African American
   b. Asian
   c. American Indian or Alaska Native
   d. Native Hawaiian or Other Pacific Islander
   e. White
   f. Others: _______________

4. What is your primary sport?
   a. Football
   b. Volleyball
   c. Basketball
   d. Soccer
   e. Swimming
   f. Baseball
   g. Softball
   h. Gymnastics
   i. Other: _______________
5. How many years have you played your sport?
   a. ____________________

6. Do you play multiple sports?
   a. Yes
   b. No

7. How many hours a week do you practice?
   a. ____________________

8. What is the highest level you want to compete at?
   a. High school varsity
   b. College
   c. Professional
   d. Olympics
Table 3 Risk of Pain and Injury Questionnaire

**Directions:** Please take the time to read each statement carefully and respond with your honest feedback. Circle the answer you think best describes how you feel.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>No pain, No gain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athletes should ‘tough it out’ with an injury or pain today and not worry about the affects tomorrow</td>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athletes should ignore pain</td>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playing with injuries and pain demonstrates character and courage</td>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coaches make athletes feel guilty if they don’t want to play hurt or with pain</td>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coaches only care about their players who are healthy and able to play</td>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My parents only care about players who are healthy and able to play</td>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statement</td>
<td>Strongly Disagree</td>
<td>Somewhat Disagree</td>
<td>Somewhat Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>-------------------</td>
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<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>My teammates only care about players who are healthy and able to play</td>
<td></td>
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<td></td>
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<tr>
<td>Coaches say they don’t want athletes to play with serious injuries, but coaches push athletes to play if they are needed</td>
<td></td>
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<tr>
<td>My parents say don’t want me to play with serious injuries, but my parents push me to play if I am needed</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>My teammates say they don’t want others to play with serious injuries, but my teammates push others to play if they are needed</td>
<td></td>
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<tr>
<td>My parents make me feel guilty if I don’t want to play hurt or with pain</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My teammates make me feel guilty if I don’t want to play hurt or with pain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coaches are impressed with athletes who play with injuries and pain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My parents are impressed with athletes who play with injuries and pain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My teammates are impressed with athletes who play with injuries and pain</td>
<td>Strongly Disagree</td>
<td>Somewhat Disagree</td>
<td>Somewhat Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
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</tr>
<tr>
<td>Athletes who endure pain and play hurt deserve our respect</td>
<td>Strongly Disagree</td>
<td>Somewhat Disagree</td>
<td>Somewhat Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>Athletes who care about their team will try to play with injuries and pain</td>
<td>Strongly Disagree</td>
<td>Somewhat Disagree</td>
<td>Somewhat Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>Every athlete should expect to have to play with an injury or pain sometime</td>
<td>Strongly Disagree</td>
<td>Somewhat Disagree</td>
<td>Somewhat Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>Only athletes understand what it is like to play with injuries and pain</td>
<td>Strongly Disagree</td>
<td>Somewhat Disagree</td>
<td>Somewhat Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>Athletes will do everything possible to play despite injuries and pain</td>
<td>Strongly Disagree</td>
<td>Somewhat Disagree</td>
<td>Somewhat Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>
TOUGH
1. No pain, no gain
2. Athletes should “tough it out” with an injury or pain today and not worry about the effects tomorrow
3. Athletes should ignore pain
4. Playing with injuries and pain demonstrates character and courage

PRESSED
1. Coaches make athletes feel guilty if they don’t want to play hurt or with pain
2. My parents make me feel guilty if I don’t want to play hurt or with pain
3. My teammates make me feel guilty if I don’t want to play hurt or with pain
4. Coaches only care about their players who are healthy and able to play
5. My parents only care about players who are healthy and able to play
6. My teammates only care about players who are healthy and able to play
7. Coaches say they don’t want athletes to play with serious injuries, but coaches push athletes to play if they are needed
8. My parents say they don’t want me to play with serious injuries, but my parents push me to play if I am needed
9. My teammates say they don’t others to play with serious injuries, but my teammates push others to play if they are needed
10. Coaches are impressed with athletes who play with injuries and pain
11. My parents are impressed with athletes who play with injuries and pain
12. My teammates are impressed with athletes who play with injuries and pain

SOCIAL ROLE CHOICE
1. Athletes who endure pain and play hurt deserve our respect
2. Athletes who care about their team will try to play with injuries and pain
3. Every athlete should expect to have to play with an injury or pain sometime
4. Only athletes understand what it is like to play with injuries and pain
5. Athletes will do everything possible to play despite injuries and pain
Table 4 Athletic Identity Measurement Scale

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I consider myself an athlete</td>
<td>Strongly disagree</td>
<td>Somewhat disagree</td>
<td>Disagree</td>
<td>Neither agree nor disagree</td>
<td>Agree</td>
<td>Somewhat Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>I have many goals related to sport</td>
<td>Strongly disagree</td>
<td>Somewhat disagree</td>
<td>Disagree</td>
<td>Neither agree nor disagree</td>
<td>Agree</td>
<td>Somewhat Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>Most of my friends are athletes</td>
<td>Strongly disagree</td>
<td>Somewhat disagree</td>
<td>Disagree</td>
<td>Neither agree nor disagree</td>
<td>Agree</td>
<td>Somewhat Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>Sport is the most important part of my life</td>
<td>Strongly disagree</td>
<td>Somewhat disagree</td>
<td>Disagree</td>
<td>Neither agree nor disagree</td>
<td>Agree</td>
<td>Somewhat Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>I spend more time thinking about sport than anything else</td>
<td>Strongly disagree</td>
<td>Somewhat disagree</td>
<td>Disagree</td>
<td>Neither agree nor disagree</td>
<td>Agree</td>
<td>Somewhat Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>I need to participate in sport to feel good about myself</td>
<td>Strongly disagree</td>
<td>Somewhat disagree</td>
<td>Disagree</td>
<td>Neither agree nor disagree</td>
<td>Agree</td>
<td>Somewhat Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>Other people see me mainly as an athlete</td>
<td>Strongly disagree</td>
<td>Somewhat disagree</td>
<td>Disagree</td>
<td>Neither agree nor disagree</td>
<td>Agree</td>
<td>Somewhat Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>Statement</td>
<td>Strongly Disagree</td>
<td>Somewhat Disagree</td>
<td>Disagree</td>
<td>Neither Agree nor Disagree</td>
<td>Agree</td>
<td>Somewhat Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------------------</td>
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<td>------------------</td>
<td>-----------------------------</td>
<td>--------------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>I feel bad about myself when I do poorly in sport</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sport is the only important thing in my life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would be very depressed if I were injured and could not compete in sport</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 5 Performance Failure Appraisal Inventory

<table>
<thead>
<tr>
<th></th>
<th>-2</th>
<th>-1</th>
<th>0</th>
<th>+1</th>
<th>+2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do Not Believe at All</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Believe 50% of the Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Believe 100% of the Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When I am failing, it is often because I am not smart enough to perform successfully.</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>+1</td>
<td>+2</td>
</tr>
<tr>
<td>When I am not succeeding, people are less interested in me</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>+1</td>
<td>+2</td>
</tr>
<tr>
<td>When I am failing, it upsets important others.</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>+1</td>
<td>+2</td>
</tr>
<tr>
<td>When I am failing, I blame my lack of talent.</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>+1</td>
<td>+2</td>
</tr>
<tr>
<td>When I am not succeeding, people seem to want to help me less</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>+1</td>
<td>+2</td>
</tr>
<tr>
<td>When I am failing, I expect to be criticized by important others.</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>+1</td>
<td>+2</td>
</tr>
<tr>
<td></td>
<td>-2 Do Not Believe at All</td>
<td>-1</td>
<td>0 Believe 50% of the Time</td>
<td>+1</td>
<td>+2 Believe 100% of the Time</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>---------------------------</td>
<td>----</td>
<td>---------------------------</td>
<td>----</td>
<td>----------------------------</td>
</tr>
<tr>
<td>When I am failing, I am afraid that I might not have enough talent.</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>+1</td>
<td>+2</td>
</tr>
<tr>
<td>When I am not succeeding, some people are not interested in me anymore</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>+1</td>
<td>+2</td>
</tr>
<tr>
<td>When I am failing, I lose the trust of people who are important to me.</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>+1</td>
<td>+2</td>
</tr>
<tr>
<td>When I am not succeeding, people tend to leave me alone</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>+1</td>
<td>+2</td>
</tr>
<tr>
<td>When I am failing, important others are not happy</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>+1</td>
<td>+2</td>
</tr>
<tr>
<td>When I am not succeeding, my value decreases for some people</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>+1</td>
<td>+2</td>
</tr>
<tr>
<td>When I am not failing, important others are not happy</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>+1</td>
<td>+2</td>
</tr>
</tbody>
</table>
Fear of Devaluing One’s Self-Estimate
1. When I am failing, it is often because I am not smart enough to perform successfully.
4. When I am failing, I blame my lack of talent.
7. When I am failing, I am afraid that I might not have enough talent.
10. When I am failing, I hate the fact that I am not in control of the outcome.

Fear of Important Others Losing Interest
2. When I am not succeeding, people are less interested in me.
5. When I am not succeeding, people seem to want to help me less.
8. When I am not succeeding, some people are not interested in me anymore.
11. When I am not succeeding, people tend to leave me alone.
13. When I am not succeeding, my value decreases for some people.

Fear of Upsetting Important Others
3. When I am failing, it upsets important others.
6. When I am failing, I expect to be criticized by important others.
9. When I am failing, I lose the trust of people who are important to me.
12. When I am failing, important others are not happy.
14. When I am failing, important others are disappointed.
APPENDIX B

PARENT PACKET

Dear Parent,

My name is Aubri Keesee. I am a graduate student at the University of Northern Iowa in the Physical Education, Movement and Exercise Science department. I am writing to seek your cooperation for my research project.

As a former athlete, I am interested in other athletes’ experiences in sport. The goal of this project is to understand the factors that influence athletes’ decisions and experiences in sport. Specifically, athletes’ social influences, fear of making mistakes, and how important being an athlete is to them.

To answer this, I am requesting your permission for your child to complete a questionnaire during one scheduled practice or during their physical education class. As a former athlete, I understand the different time commitments parents, coaches, and athletes must fulfill. I want to ensure your child’s involvement is as brief as possible. Your child will need approximately 15-30 minutes to complete the questionnaire. There will not be identifiers linking your child to an answered questionnaire.

Your cooperation in this project is sincerely appreciated. The information gathered through this project will help coaches, parents, and athletes understand the factors that influence one’s decision and experiences in sport.

Enclosed with this letter is a parent consent form. Please read it and sign it if you will allow your child to participate in this study. Please have your child bring this form to practice tomorrow or as soon as possible. Keep the other copy for your records. If you have any question or wish to contact me, please feel free to do so. Thank you for your consideration.

Sincerely,

Aubri L. Keesee
Primary Investigator
(712) 309-1819
keesec@uni.edu

Windee M. Weiss
Graduate Thesis Advisor
Professor, Dept. of Kinesiology
windeeg.weiss@uni.edu
UNIVERSITY OF NORTHERN IOWA
PARENTAL CONSENT

Project Title: Young athletes' experiences in sport

Name of Investigator(s): Aubri Keesee and Dr. Windee Weiss

Invitation to Participate: Your child is invited to participate in a research project conducted through the University of Northern Iowa. The following information is provided to help you make an informed decision about whether or not to allow your child to participate.

Nature and Purpose: The purpose of this study is to investigate young athletes' experiences in sport. The researchers will look at your child's socialization into the sport ethic, athletic identity, fear of making mistakes, and social influences.

Explanation of Procedures: The primary investigator, Aubri Keesee, will coordinate a time that works best with the coach or athletic director and team to have athletes complete the survey. Once a time has been agreed upon, I will administer the survey to athletes, only athlete who return a signed parent consent form and sign a child assent form will be able to participate. The survey will take approximately 15-30 minutes.

Privacy and Confidentiality: There will be no direct identifiers linking participants to questionnaires. Answered questionnaires will be kept in a locked filing cabinet, data will be kept on a password secured computer and will be saved up to three years after this project is completed.

Discomforts, Risks, and Costs: Risks for participation are minimal. Participants may become bored or tired, if this is to occur, your child should let the researcher know and everyone can take a short break.

Benefits and Compensation: No direct benefits to participants are expected, but this research may generate important information about young adolescent athletes' experiences in sport.

Right to Refuse or Withdraw: Your child's participation is completely voluntary. Your child is free to withdraw from participation at any time or to choose not to participate at all, and by doing so, your child will not be penalized.

Questions: If you or your child have questions regarding your child's participation in this study or about the study generally, please contact Aubri Keesee at (712) 369-1819 or keeseea@uni.edu, or Dr. Windee Weiss at (319) 273-2011 or windee.weiss@uni.edu. For answers to questions about the rights of research participants and the research review process at UNI, you may contact the office of the IRB Administrator at (319) 273-6148.

Agreement: My child is fully aware of the nature and extent of their participation in this project as stated above and the possible risks arising from it. My child hereby agrees to participate in this project. I acknowledge that I have received a copy of this consent statement. I am 18 years of age or older.

(Signature of participant's parent/guardian)          (Date)

(Printed name of participant's parent/guardian)

Aubri Keesee, Graduate Student, and
Primary Investigator

Windee M. Weiss, Ph.D., and
Graduate Thesis Advisor

1-13-2020          (Date)

1/13/2020          (Date)
UNIVERSITY OF NORTHERN IOWA
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(Signature of participant’s parent/guardian) (Date)

(Printed name of participant’s parent/guardian)

Aubri L. Keesee
Aubri Keesee, Graduate Student, and Primary Investigator

Windee M. Weiss, Ph.D., and Graduate Thesis Advisor

1/13/2020 (Date)
APPENDIX C

CHILD ASSENT

University of Northern Iowa
Informed Assent

My name is Aubri Keesee. I am a student at the University of Northern Iowa. I am inviting you to participate in a research study about young athletes’ experiences in sport.

Your legal guardian(s) and parents know we are talking with you about the study. This form will tell you about the study to help you decide whether or not you want to take part in it.

I would like to ask you to take a survey about your sport experiences. The survey will take approximately 15 to 30 minutes. You can skip any part or question if it makes you uncomfortable.

I do not expect anything bad to happen to you, but some kids may become bored or tired. If you become bored or tired, then please let me know. We will take a short break.

I will be very careful to keep your answers or results as private as possible. Even if your parents or coaches ask, I will not tell them about what you say in the study.

The results of this study may be used in online or hard copy reports, presentations, or publications, but your name and identity will not be shared. Data from this study will be stored on a password protected computer. The researchers will have access to the data, and the data will be retained up to 3 years after the project is completed. The data from this study may be used in future research.

You do not have to participate in this study. It is up to you. You can say “no” now or even change your mind. No one will be upset with you if you decide you do not want to be in the study. Your playing time will not be affected in any way.

If you have questions about the study, you can contact Aubri at (712) 309-1819 or keeseea@uni.edu or Dr. Windee M. Weiss at windee.weiss@uni.edu.

Signing below means that you have read this form and that you are willing to be in this study:

Name of the Participant (Write your name on the line): ________________________________

Signature of the Participant (Put your signature on the line): ________________________

Date: ___________________________