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CHANGES IN ATHLETIC IDENTITY AND FACTORS INFLUENCING CHANGE DURING COLLEGIATE SPORTS CAREER

LILLA KISVARI

55 Pages

The purpose of this study was to examine and understand how athletic identity and life satisfaction changed in college student-athletes during their college careers and explore the factors that influenced the changes in athletic identity over time. Specifically, the three research questions were: (1) how does athletic identity, and its dimensions (social identity, exclusivity, and negative affectivity), and life satisfaction change in college student-athletes over a college career? (2) what are student-athlete perspectives on the factors influencing changes of athlete identity over a college career? And (3) what is the relationship between athletic identity and life satisfaction?

The study included 2 phases: one in 2019 and the other in 2023. Phase 1 occurred included a sample of 73 NCAA Division I collegiate student-athletes who completed the Redbird Resilience program at Illinois State University. Phase 2 took place in 2023 (senior year) and 32 Division I collegiate student-athlete participated from the original sample. The athletes completed the following questionnaires at four time points over their college career: Athletic Identity Measurement Scale (AIMS), and the Satisfaction with Life Scale. Findings revealed that total athletic identity remained relatively constant through the 4 years. However, significant changes occurred in all of the subscales (social identity, exclusivity, and negative affectivity) as well as in life satisfaction. Our findings showed significant decreases in exclusivity and negative affectivity over time as well as significant increases in life satisfaction and social identity. Some

of the perceived reasons for change included: coach's support, social status, family support, medical retirement, playing time, future plans and teammate support. Lastly, we found that life satisfaction was positively associated with social identity and negatively associated with exclusivity. These findings add to the existing literature with the specific focus on the changes in the AIMS subscales over time. Additionally, this study can help practitioners create programs that help athletes successfully navigate transitioning out of sport.
KEYWORDS: athletic identity; life satisfaction

CHANGES IN ATHLETIC IDENTITY AND FACTORS INFLUENCING CHANGE DURING COLLEGIATE SPORTS CAREER

LILLA KISVARI

A Thesis Submitted in Partial
Fulfillment of the Requirements
for the Degree of

MASTER OF SCIENCE

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CHANGES IN ATHLETIC IDENTITY AND FACTORS INFLUENCING CHANGE DURING COLLEGIATE SPORTS CAREER

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L.K.

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CHAPTER I: INTRODUCTION

Over the last few decades, a variety of different theories relating to athletic identity have been proposed in relation to different contextual factors such as athletic retirement, career transitions and development, academic success and educational outcomes. However, there is limited research when looking at the changes in athletic identity throughout one's college athletic career. When talking about athletic identity changes during a particular period of time, it is important to understand identity development as a whole. Erikson (1968) proposed the Psychosocial Development theory which outlines the key developmental periods during a person's lifespan. Based on Erikson's (1968) theory, people go through an identity vs confusion phase during their teen years (ages 12 to 18 years). This would indicate that key identities form during these teen/adolescent years and activities done during this time (ie: sports) can greatly impact the strength of these emerging identities.

Athletic identity refers to "the degree to which an individual identifies with the athlete role" (Brewer et al., 1993). Past research on athletic identity aligns with the psychosocial development stages as athletic identity is found to increase during high school (Greendorfer & Blinde, 1985) but decreases during college years (Brewer et al., 1993; Miller & Kerr, 2003). Athletic identity has been commonly assessed using the Athletic Identity Measurement Scale (AIMS; Brewer et al., 1993), where athletic identity is considered to be a broad and multidimensional construct and broken down into subscales such as social identity, exclusivity, and negative affectivity (Brewer & Cornelius, 2001). A recent meta-analysis of research examining athletic identity revealed that a higher degree of athletic identity related to factors such as intrinsic motivation/commitment and the mastery goal orientation, with correlations small in relation to negative or less desirable factors in sport such as body disorder issues and

negative emotions (Lochbaum et al., 2022). In this research, studies have shown the negative impact of increased athletic identity as it leads to struggles with sport retirement (Alfermann et al., 2004; Lavallee et al., 1997), negative emotional responses to injuries (Brewer et al., 1993) as well as life satisfaction (Martin et al., 2014). Athletes with lower athletic identities are more likely to adjust to post retirement life successfully compared to those with high athletic identities (Lally, 2007; Martin et al., 2014), and those who approach retirement with lower athletic identity also experience higher levels of life satisfaction after their career termination (Lally, 2007). The opposite is true for athletes with high athletic identity as they face difficulty when adjusting to the post-retirement life. This may be due to a phenomenon known as identity foreclosure proposed by Marcia (1966) and Petitpas (1978) where athletes only identify with the role of being an athlete and fail to explore identities outside of sports. In this line of research, it is notable that few studies reported specific scores of the specific AI subscales (i.e., social identity, exclusivity, and negative affectivity; Lochbaum et al., 2022).

College student athletes may be particularly at risk for developing identity foreclosure given their competitive sports environments where they are given specific special treatments as athletes. Social status, special treatment from others and the glorification of athletes in society can all lead to increased athletic identity and the want to maintain this identity without exploring others (Stephan & Brewer, 2007; Wenner, 1995).

There is a need to understand how athletic identity develops over the course of a college career with the consideration of the subscales and its implications towards preventing identity foreclosure and promoting successful career and life transitions. The purpose of this study was to examine and understand how athletic identity and life satisfaction change in college student-

athletes during their college careers and explore the factors that influenced the changes in athletic identity over time.

CHAPTER II: LITERATURE REVIEW

Identity Development

The American Psychological Association defines personal identity as "an individual's sense of self defined by (a) a set of physical, psychological, and interpersonal characteristics that is not wholly shared with any other person and (b) a range of affiliations (e.g., ethnicity) and social roles. Identity involves a sense of continuity, or the feeling that one is the same person today that one was yesterday or last year (despite physical or other changes). Such a sense is derived from one's body sensations; one's body image; and the feeling that one's memories, goals, values, expectations, and beliefs belong to the self." (APA Dictionary of Psychology, 2023). Identity develops and evolves over the course of one's lifespan and there are many theories that try to explain the stages of this development. Perhaps the most commonly known theory, proposed by Erikson (1968), are the eight stages of psychosocial development. According to this theory, adolescents between the ages 12 to 18 go through the stage known as identity vs role confusion (Erikson, 1968). This stage is very important in building a strong sense of self and figuring out what values and beliefs are most important to them. During these formative years, adolescents explore different domains and take on a variety of different social roles to try to find something that they can strongly identity with (Erikson, 1968). The importance of different identities develops into a hierarchy as the individual finds what they deem to be most aligned with their values and beliefs (Stets & Burke, 2000). Erikson (1968) believed that the psychosocial developmental stages build upon each other and successful transition into the next phase will be dependent on the skills acquired in the last one. From the ages 18 to 40, people go through the intimacy vs isolation stage. This stage begins during the college years and emphasizes the importance of building relationships with other people. Identity

plays an important role in this process as it provides the person with a sense of belonging (Erikson, 1968).

A strong sense of identity (in any domain) can help facilitate social interactions through common beliefs and values. Theorists believed that social factors highly influence the development of one's identity and what role they wish to take on in society (Chen et al., 2010; Erikson, 1968; Feldman, 1978; Kaufman & Feldman, 2004). Identity development can be looked at from many different lenses whether that is psychological, biological, or sociological. Kaufman and Feldman (2004) recognized the gap in the identity literature related to the consideration of sociological factors. They believed that during college years, students interact with a variety of different individuals and the accumulation of these social interactions greatly influence their identity (Kaufman & Feldman, 2004). The sociological approach taken by Kaufman and Feldman (2004) provides a great in-depth look into the intimacy vs isolation phase described by Erikson (1968) and provides sociological frameworks that explain the social interactions that impact identity development.

Furthermore, it is important to consider that most people will identify with multiple roles and may possess multiple identities. Jones and McEwen (2000) believed that identities are much more complex than just having one single dimension of identity and created a conceptual model that demonstrates the multiple dimensions of identity and recognizes that the development of identity is an ongoing, everchanging process. Due to the construction of identity being a continuous process, it is difficult to just look at identity without looking at contextual factors that influence changes during a particular time. The model developed by Jones and McEwen (2000) shows that people have a core sense of self which the individual deems most important about themselves. The core self describes the personal identity and attributes that a person most

identifies with while the other intersecting identity are of less importance to the individual but still impacting their view on the world and the worlds view of them. These identities outside of the core identity are called outside identities and often include more salient and surface level identities that describe more external dimensions of a person (e.g., race, gender) (Jones & McEwen, 2000). The dimensions of identity that are more externally noticeable will often influence the experiences of individuals in society and thus may impact their core identity. This theory suggests that the multiple dimensions of a person's identity will self-organize themselves in a hierarchical manner depending on which dimensions the person deems most important to them.

The aforementioned theories and processes are particularly important to consider for the sport context given the consistent competitive environment that student-athletes are placed in daily. Student-athletes often see and interact with the same people every day and much of their collegiate sports careers will be accompanied by sports stakeholders as well as other athletes. College experience plays an important role in how students identify during and after their studies (Kaufman & Feldman, 2004) and can have important implication in athletic identity research as the environmental and experiential factors may be a great contributor to athletic identity changes overtime. The sociological perspective can be particularly applicable when looking at athletic identity given the high social status that athletes receive due to their participation in sports. Athletic identity can be viewed as a social role which is influenced by the people surrounding the athlete and often to increase social status, participating in sports is a desirable quality (Heyman, 1987; Pearlin, 1983, Sadalla et. al., 1988). For student-athletes, it is likely that those with high athletic identity will have 'athlete' as their core identity as they deem their role as an athlete most important to them. All other dimensions of their identity may become secondary and less

important to them but based on Jones and McEwen's (2000) model, they will impact their social experiences which may have an overall impact on their identity.

Athletic Identity

Athletic identity is defined as "the degree to which an individual identifies with the athlete role" (Brewer et al., 1993). Athletic identity is a broad term and includes several subfacets. The three subscales identified by Brewer and colleagues (1993) are: 1) Social Identity: the extent to which views being an athlete a social role, 2) Exclusivity: the extent to which the athlete exclusively identifies with the role of athlete, 3) Negative Affectivity: the extent to which a person negatively reacts to not being able to participate in sport. Research related to athletic identity development has been relatively inconsistent in explaining changes in athletic identity over the course of a college career. Some research studies found a negative association between age and athletic identity as well as a great decrease in athletic identity and the salience of said identity during college years (Brewer et al., 1993; Greendorfer & Blinde, 1985; Miller & Kerr, 2003). Furthermore, Greendorfer and Blinde (1985) looked at athletic identity retrospectively in former student-athletes and reported that the athletes considered sport to be of great importance during their high school years compared to their college years. To further test this hypothesis, Houle and colleagues (2010) conducted a retrospective study with intercollegiate gymnasts and found contradicting results. It was found that there was in fact a significant increase from ages 10 to 15 (which aligns with Erikson's psychosocial development theory), however no significant changes were noted from high school to college years (Houle, Brewer, Kluck, 2010).

Having a strong athletic identity may both benefit the athlete as well as hurt them in the long run. Identifying with the role of an athlete and sport participation has been positively associated with sport performance, social interactions and relationships, confidence, enjoyment,

and commitment to sport (Chen et. al., 2010; Danish, 1983; Horton & Mack, 2000; Petitpas, 1987; Werthner & Orlick, 1986). Having high athletic identity can offer several benefits psychologically to student-athletes as long as their identity is not exclusive and they explore identities outside of sports as well (Brewer et al., 1993). While there may be several benefits to having high athletic identity, there may be certain risks that it may pose on the athletes as well. High athletic identity has been associated with academics, substance use, difficulty navigating sport and life transitions, reactions to injuries, and emotional disturbances (Brewer et al., 1993; Coakley, 1992; Hale & Waalkes, 1994; Martin & Horn, 2013, Pearson & Petitpas, 1990). Athletes with high athletic identities are also at a higher risk to develop identity foreclosure, which occurs when athletes only identity with the role of an athlete and fail to explore other identities (Marcia, 1966; Pearson & Petitpas, 1990, Brewer et al., 1993). Perhaps this occurs for those who score high on the exclusivity subscale as they tend to commit to playing sports and dedicating most of their time to their sport which prevents them from exploring other social identities ultimately leading to identity foreclosure and burnout (Martin & Horn, 2013). According to Martin & Horn's (2013) study, the two negative subscales of athletic identity (negative affectivity and exclusivity) were positively associated with mental and physical exhaustion which is one of the early signs and symptoms of burnout. They hypothesized that this may be occurring due to athletes with higher athletic identities training at a higher intensity for longer periods of time which can lead to overtraining and exhaustion (Brewer et al., 1993; Martin & Horn, 2013). This may be particularly likely to occur in athletes who have that high identity, overtrain, put sport above all else but they lack accomplishments which can be detrimental to their mental health and perception of self-worth (Gustaffson et al., 2008). Emotional disturbances may also occur in athletes with high athletic identity in response to

injuries or sudden career termination (Kavoura & Ryba, 2016). Athletes may have a hard time adjusting and accepting career termination, injury and deselection and may look to find identities outside of sport to help maintain their self-esteem and concept of self-worth (Brewer et al., 2017).

Providing a summary of research on athletic identity since 1993, Lochbaum and colleagues (2022) conducted a meta-analysis to assess the two main AIMS hypotheses: (1) individuals who are most engaged in sport will identity most as an athlete and thus score higher on the AIMS; and (2) athletic identity might relate to positive and negative factors. The analysis revealed that a higher degree of athletic identity positively related to factors such as intrinsic motivation/commitment and the mastery goal orientation, with correlations small in relation to negative or less desirable factors in sport such as body disorder issues and negative emotions (Lochbaum et al., 2022). Subsequently, athletic identity can have several positive outcomes when it comes to sports performance, motivation, self-esteem and social relationships, however, if the athlete only identifies with the role of an athlete and fails to explore other identities, there may be several negative outcomes that may occur such as overtraining, risky behavior and emotional disturbances. Due to the inconsistent findings related to changes in athletic identity over time (Lochbaum et al., 2022), more research should be done with a variety of different sports with consideration to the athletic identity subscales as well as retirement status. This is particularly important as "minimal AIMS subscale reporting occurred across the 101 studies" (Lochbaum et al., 2022; p. 1391) analyzed in the recent meta-analysis. Our study aims to explore the changes during the college career and what factors are influencing the change. Understanding these changes and what influences them can help practitioners create programs to better prepare

student-athletes for the post-retirement life and hopefully prevent identity foreclosure from occurring.

Understanding Athletic Identity Over Time

Athlete career development theorists believe that career transitions are holistic and multidimensional processes that factor different layers (Henriksen et al., 2010, Alfermann & Stambulova, 2007, Wylleman et al., 2019). The most recent model is the holistic athletic career model proposed by Wylleman and colleagues (2019) that define six interacting domains and demonstrates how when a transition in one domain occurs, changes in the rest of the domains will either occur simultaneously or soon after. The six levels that are included within this model are: athletic, psychological, psychosocial, academic and 10ocationnal, financial, and legal. Based on the levels, our interest specifically lies within the ages 12 to about 21 to understand what occurs during the years where identity development is most prevalent. From an athletic standpoint this is the development stage (Wylleman et al., 2019) where athletes are still developing their skills. From an identity development and psychological perspective, this would occur during the early adolescent years which Erikson (1968) believes to be the most important years for identities to form. Coaches, parents and peers play a crucial role during the development phase (Wylleman et al., 2019). As seen in identity research, environment and who one is surrounded by on a daily basis will greatly impact the identities that they strongly identity with (Chen et. al., 2010; Jones & McEwen, 2000). As the athletes transition from development to mastery phase, the other levels also change where suddenly there is more pressure and expectations from athletes as at this stage sport governing bodies and sponsorships may become an influencing factors for young adults (Wylleman et al., 2019). At this stage, maintenance of athletic identity will likely be influenced by the perceived environment by the student-athlete and

a sense of belonging with their peers. Career transitions are very complex and multiple different factors play a role in the success from transitioning from one stage to the next.

Other research within the area of career transitions considers the duality of careers one being school and work and the other being sport (Stambulova & Wylleman, 2015). Dual career research is perhaps the most appropriate when looking at student-athletes given their dedication both in sports and academics. The holistic athletic career model outlines the simultaneous changes that occur in multiple different domains during transitions and provides a strong basis for dual career research. It is important to consider the unique stressors that come with dual careers. Brown and colleagues (2015) looked at these barriers and challenges and found that it is very difficult to balance education and sports in a way that both domains receive full attention and investment. Prioritization becomes an important aspect in the decision-making processes, and this is the period where athletes decide what they wish to pursue as a career or if they wish to maintain dual careers.

Athletic Identity and Life Satisfaction

According to NCAA only 2% of student-athletes go on to play professional sports in the United States. This indicates that 98% of athletes across all NCAA divisions will retire from competitive sports upon graduation (NCAA.org). This transitional phase may be a stressful experience for athletes for a variety of different reasons such as loss of identity (only if athletic identity was high at the time of retirement), emotional loss, loss of sense of belonging, and lack of coping strategies (Astle, 1986; Brewer, Van Raalte, & Linder, 1993; Menke & Germany, 2019; Murphy, 1995; Pearson & Petitpas, 1990; Werthner & Orlick, 1986). Menke and Germany (2019) conducted a phenomenological study to determine common themes that athletes may have experienced during their transition out of sports. This study was done retrospectively to

allow for the former athletes to reflect on their experiences and gain an in depth look about their adjustment to post-retirement life. Menke and Germany (2019) found that the participants reported "feelings of loss, sadness and anxiety, lack of motivation, and loss of interest in activities at the end of their sport careers and were unprepared to deal with those symptoms." Similarly, Park and colleagues (2012) provided a systematic review of 122 different career transition studies and found that in 86 of them, there was mention of a variety of different negative effects (identity crisis, negative emotions and distress, feelings of loss) including similar findings to Menke and Germany (2019).

Studies have found that athletic identity plays an important role in how well an athlete adjusts to life after retirement. Through their systemic review, Park and colleagues (2012) found 36 studies that indicated that there is a negative correlation between high athletic identity and quality of adjustment. Furthermore, those who had a higher likeliness of developing identity foreclosure (high exclusivity subscale within athletic identity) will also have more trouble adjusting (Lavelle et. al., 1997; Park et. al., 2012). Lavelle, Gordon and Grove (1997) suggested that this may be due to the athlete's social role not extending beyond athletics and is more of an issue of the socialization process rather than identity development. Studies show that athletic identity decreases after retirement and that can facilitate an easier time adjusting to life outside of sports (Lavelle et. al., 1997; Martin et. al., 2014; Menke & Germany, 2019). Athletes who are willingly retiring and have accepted the retirement status may experience less difficulties as they begin to explore new activities and identities outside of sports prior to retirement (Martin et. al., 2014; Menke & Germany, 2019). According to a study conducted by Martin and colleagues (2014), voluntary retirement may lead to athletic identity decreasing prior to retirement. This may be due to the athlete accepting this new status and may be actively seeking new self-

concepts that they can identify with outside of sports (Lally, 2007). In comparison, when the retirement is involuntary, due to deselection, injury or early career termination, athletes may have a harder time adjusting and may experience emotional disturbances and distress (Alfermann & Gross, 1997; Brewer et. al., 2017, Pearson & Petitpas, 1990). In Martin and colleagues study, voluntary retirement was found to be a moderator and those who had disclosed that they are planning on retiring from their sport reported lower athletic identity levels (Martin et. al., 2014). The study did see an overall decline in athletic identity over time in all groups, regardless of retirement status, which aligns with Brewer and Cornelius's (2001) findings that athletic identity declines as age increases.

Life satisfaction has also been looked at in relation to athletic identity and retirement. Once again literature related to life satisfaction after sports retirement has been relatively inconsistent as some found an increase after retirement (Sinclair and Orlick, 1993) while others found a decrease (Erpic, 1998; Werthner and Orlick, 1986). Martin and colleagues (2014) found that while still playing, life satisfaction remained relatively constant, however in the group of athletes that retired, they found an increase in life satisfaction. This may be because these athletes may have already accepted their retirement and can focus on other domains of their lives that they deem important. Hence, they came to the conclusion that retirement status is a moderator when it comes to the relationship between athletic identity and life satisfaction (Martin et. al., 2014). This is important for athletic identity research given the statistics that so many athletes (98%) will retire after their college careers. Sports Psychology professionals can use these studies to create programs that allow for a smooth transition out of college.

Purpose of this Study

Research related to changes in athletic identity have been relatively inconsistent and contradictory. There is a gap in the research when it comes to considering the three subscales of athletic identity and more research should be done to address these gaps. Athletic identity plays an important role in how an individual navigates career transitions and how they adjust to post-retirement life including life satisfaction (Martin et. al., 2014).

The purpose of this study was to examine and understand how athletic identity and life satisfaction change in college student-athletes during their college careers and explore the factors that influenced the changes in athletic identity over time. Specifically, the two research questions were: (1) how does athletic identity, and its dimensions (social identity, exclusivity, and negative affectivity), and life satisfaction change in college student-athletes over a college career? And (2) what are student-athlete perspectives on the factors influencing changes of athlete identity over a college career?

CHAPTER III: METHODS

Research Design

The changes in athletic identity and life satisfaction in college student-athletes was examined using an exploratory sequential design with a QUANT-qual relative emphasis (Morgan, 1998). Specifically, this mixed methods study commenced with a post-positivist (QUANT) worldview to examine the changes in athletic identity and life satisfaction and moved toward a naturalistic (qual) worldview to explore lived experiences and perspectives of the factors influencing changes in athletic identity (Cresswell & Plano Clark, 2011). This study was conducted in two phases. The first phase involved data collection from student-athlete participants in 2019 that assessed athletic identity and life satisfaction in their first semester of college. The second phase involved data collection from the same group of student-athlete participants that assessed athletic identity, life satisfaction, and factors influencing changes in athletic identity in their fourth year of college.

Participants

The sample for phase one of the study included 73 student-athletes who were in their freshman/first-year at a Division I university in the United States. This group had a higher number of female athletes than male athletes (male athletes = 32; female athletes = 41), indicated they were primarily white/Caucasian (n = 54) with others indicating they were black/African-American (n = 13), prefer to self-describe (n = 4), and Hispanic/Latinx (n = 2), and were split between full scholarship (n = 22), partial scholarship (n = 36), and no scholarship (n = 15).

The sample for phase two of the study included 32 NCAA Division I student-athletes from the same university who all classify as tradition seniors (meaning that this is their 4th year of competition). All 32 individuals participated in phase one of the study. The majority of the

sample from phase 2 identified as female (n = 19, 59%) while the rest identified as male (n = 13, 41%). There were no participants who identified outside of the gender binary. The sample consisted of individuals who identify as Caucasian/ White (n = 25, 72%), Black/ African American (n = 5, 16%), Hispanic/ Latinx (n = 1, 3%) and one person who chose to self-describe as "Asian White" (n = 1, 3%). The sample represented a variety of different sports such as golf, baseball, tennis, softball, swimming, volleyball, track and field, football, and gymnastics. Some participants did not disclose what sport they currently play. Fifteen (47%) participants self-reported that they will retire after the 22-23 academic year and do not plan to play collegiate sports anymore (Range of years left to play: 0-3, M= 0.6).

Procedures

The current study received approval from the associated university's Institutional Review Board. Data was collected at four different time points starting in 2019. To qualify for this study, participants must have completed an educational program designed to help freshman student-athletes transition into college. The program included 4 workshops focusing on different areas such as: coping resources and strategies, balanced student-athlete identity, leadership skills, and social support. The first time-point in 2019 was pre-program (August 2019), the second time-point was post-program (October 2019), third time-point was at the end of the fall semester (December 2019), lastly a fourth time-point was added in the Spring of 2023 which would be considered the athlete's last semester of competition based on traditional NCAA eligibility rules. A total of =73 student-athletes were surveyed during the first three time-points and our initial data reflects that sample. Participants were cross-referenced to see if they are still active members of their university's athletic teams which left us with 66 participants. 32 of the 66 participants (45% retention) participated in this study to examine the longitudinal changes in

their athletic identity. Participants were recruited with the help of the Athletic Academic Support staff at the university and completed the surveys online using Qualtrics. 2 participants were removed from the sample as they did not complete the entirety of the survey and thus provided unfit data.

Measures

Using the exploratory sequential mixed-methods design with a QUANT-qual, the data demographic questions, two validated scales, and open-ended questions.

Athletic Identity Measurement Scale (AIMS): This measure is latent self-reported measuring the extent to which the participants identify with the role of being an athlete (Brewer & Cornelius, 2001). Participants were asked to indicate how much they agree to disagree with 7 different statements on a Likert-like 7-point scale where *1 = strongly disagree* and *7 = strongly agree*. The scale includes 3 subscales: social identity (the extent to which people views being an athlete a social role, questions 1-3), exclusivity (the extent to which the athlete exclusively identifies with the role of athlete, questions 4, 5) and negative affectivity (the extent to which a person negatively reacts to not being able to participate in sport, questions 6, 7). Together, the three subscales, make up the latent construct of athletic identity. A sample question was: "I need to participate in sport to feel good about myself." Internal consistency for measures were calculated at each time point:

Table 1. Reliability Analysis

	Time 1	Time 2	Time 3	Time 4
Total Athletic Identity	0.750	0.760	0.780	0.790
AI-Exclusivity	0.794	0.795	0.873	0.843
Table Continues				

Table Continued				
AI-Negative Affectivity	0.452	0.439	0.763	0.677
AI-Social Identity	0.906	0.904	0.878	0.738

The Satisfaction with Life Scale: This scale was developed by Diener and colleagues (1985) and measures one's self-reported perception of how satisfied they are with their lives at a particular time. This is a 5-item Likert-like 7-point scale where participant responses ranged from *1 = strongly disagree* and *7 = strongly agree.* A sample question was: If I could live my life over, I would change almost nothing." Participants receive a value between 5 and 35 with higher scores indicating higher life satisfaction (Diener et al., 1985). The alpha coefficients for this scale were calculated at Time 1 (α= 0.750), at Time 2 (α= 0.759), at Time 3 (α= 0.916), and at Time 4 (α= 0.889). All of these coefficients are acceptable and indicate a good internal consistency between items.

Factors influencing Athletic Identity: This measure was created by the researchers based on existing athletic identity research and included 10 items of possible influencing factors when it comes to changes in athletic identity. Participants were asked "How much did the following factors influence your 'Athletic Identity' (AI)? (i.e., How much did the following factors influence the degree with identify with the athlete role?)". A 7-point Likert-style scale was used and factors included: personal performance, playing time, team performance, injury, coach support, teammate support, AD support, family support, non-sport friends, academic identity, post grad plans, and scholarship status. Participants were also given a write in option so they could identify any factors that they perceived as important influences to their changes in athletic identity. After completing the Likert-scale, participants were asked to elaborate on specific

changes in their athletic identity and were told to "Identify up to three of the most influential factors and explain how and why they changed/influenced your 'Athletic Identity'".

Open-ended Athletic Identity Question: To gain a wide range of perspectives or positionings about the experience of changes in athletic identity and perceived changes, participants were asked short answer questions about their perception of their change in athletic identity and what caused this change. The question was "Do you think your 'athletic identity' (AI) changed during your college career? If so, how and why?". The topic of athletic identity suited a 'wide angle lens' so this open-ended qualitative approach was deemed as beneficial to gain an in-depth experiential view of changes in athletic identity from the athletes themselves (Braun et al., 2012).

Data Analysis

For the first research question focused on differences in study variables over time, data analysis was conducted in SPSS (version 20.0). We did not receive IRB approval to match participants from their first 3 time-points to their 4th, hence we compared group means to determine the overall changes in athletic identity and its subscales over one's collegiate career. For all study variables at all four time points, we calculated descriptive statistics. Additionally, we aimed to investigate how athletic identity and life satisfaction changed across the course of the semester, five repeated measure ANOVAs were conducted with time as the independent variable and (1) satisfaction with life, (2) total athletic identity, (3) social identity, (4) exclusivity, and (5) negative affectivity as the dependent variables.

For the second research question focused on factors influencing athletic identity, frequencies were calculated to examine the degree to which each factor was believed to decrease or increase athletic identity. For the qualitative responses and open-ended questions, a thematic

analysis was used to identify common and key themes that athletes mentioned about the factors that they perceived as important influences (Braun et. al., 2016; Clarke & Braun, 2006). Specifically, six general steps were followed. First, the researcher familiarized herself with each individual response and the collective content from the open-ended question. The second step involved creating a coding frame of the initial trends and themes across the thirty responses to the open-ended questions. This coding was at the semantic level to identify what each participant was describing in relation to their athletic identity and involved a deductive and inductive process. Codes were deductively analyzed to identify those that align with the ten factors influencing athletic identity, previously identified from the extant literature. Coding then moved to an inductive phase where unique factors influencing athletic identity were identified. Third, the researcher engaged in theme development to identify the specific patterns in the responses and generated a list of themes. These themes were then refined to indicate their influence on athletic identity (increase, decrease, or neutral) and named accordingly. Finally, the sixth step involved writing up the qualitative results to answer the second research question and add further insight and depth to the quantitative findings.

Lastly, for the third research question pertaining to the relationship between athletic identity and life satisfaction data analysis was conducted in SPSS (version 20.0). To examine the relationship between the variables we used a Pearson's correlation matrix. We included both total athletic identity and its subscales to get an in-depth look into how they would be associated with life satisfaction.

CHAPTER IV: RESULTS

Changes in Athletic Identity and Life Satisfaction

Descriptive statistics and inferential statistics were calculated to answer the first question focused on changes in student-athlete athletic identity and life satisfaction over a four-year period.

The student-athlete sample reported relatively high levels of athletic identity and satisfaction with life (see Table 1.). The student-athletes also scored relatively high on all three subscales of athletic identity however, we did some decreases in certain areas of their identity.

Table 2. Descriptive statistics for student-athletes across 4 time-points

	Scale Range	Time 1	Time 2	Time 3	Time 4
Satisfaction with Life	1-7	4.30 (*sd*= 1.20)	4.50 (*sd*= 1.10)	5.4 (*sd*= 1.22)	5.00 (*sd*= 1.25)
Athletic Identity (AIMS) Total	1-7	5.41 (*sd*= 1.00)	5.39 (*sd*= 0.98)	5.43 (*sd*= 0.92)	5.16 (*sd*= 0.98)
AIMS- Social Identity	1-7	5.47 (*sd*= 1.27)	5.48 (*sd*= 1.26)	6.36 (*sd*= 0.86)	6.2 (*sd*= 0.80)
AIMS- Exclusivity	1-7	5.23 (*sd*= 1.39)	5.32 (*sd*= 1.34)	4.57 (*sd*= 1.46)	4.27 (*sd*= 1.55)
AIMS- Negative Affectivity	1-7	5.49 (*sd*= 1.11)	5.33 (*sd*= 1.07)	4.88 (*sd*= 1.47)	4.53 (*sd*= 1.56)

Inferential Statistics

A one-way MANOVA was calculated examining the effect of time (T1, T2, T3, T4) on total athletic identity, AIMS social identity, AIMS exclusivity, AIMS negative affectivity and satisfaction with life. A significant effect was found, F (15, 840) = 12.98, $p < .0005$; Wilk's Λ = 0.562. Follow-up univariate ANOVAs indicating that time had a significant effect on Social Identity (F (3, 308) = 13.63; $p < .0005$), on Exclusivity (F (3, 308) = 8.25; $p < .0005$), on Negative Affectivity (F (3, 308) = 6.76; $p < .0005$) and on Satisfaction with life (F (3, 308) = 15.36; $p < .0005$). However, time did not have a significant effect on the Total Athletic Identity (F (3, 308) = 0.44; $p < .722$). To further look at the significant ANOVAs Tukey's HSD post-hoc tests were run to examine the changes.

Tukey's HSD was used to determine the nature of the differences between at the difference time point and to see the overall progression of the dependent variables. The analysis revealed that there was a significant increase in social identity ($p < 0.05$) from Time 1 (M = 5.47, SD = 1.27) to Time 3 (M = 6.36, SD = 0.86) and Time 4 (M = 6.2, SD = 0.80). There was no significant change from Time 3 to Time 4 but we did see an overall increase in AIMS social identity from the student-athletes first year to their senior year. We saw a significant decrease ($p < 0.05$) in exclusivity from Time 1 (M = 5.23, SD = 1.39) to Time 4 (M = 4.27, SD = 1.56) and similar results in negative affectivity as well as the mean scores saw a significant decrease ($p < 0.05$) from Time 1 (M = 5.49, SD = 1.11) to Time 4 (M = 4.53, SD = 1.56). This indicates that both the negative affectivity and exclusivity subcategories of athletic identity decreased during the athlete's college careers. For life satisfaction, the analysis also determined that there was a significant change ($p < 0.05$) from Time 1 (M = 4.3, SD = 1.20) to Time 4 (M = 5, SD = 1.25). However, the biggest change occurred from Time 1(M = 4.3, SD = 1.20) to Time 3 (M = 5.41,

SD = 1.22) and life satisfaction did not significantly change from Time 3 to Time 4. There was no significant change noted in total athletic identity indicated that the athlete's identification with the athlete role remained relatively constant throughout their college careers.

Qualitative Perception of Athletic Identity

There were some differences between the quantitative athletic identity data and the self-perceived changes in identity from the qualitative responses. Based on our quantitative findings, overall athletic identity did not change significantly across the 4 time points and remained relatively consistent. However, when the athletes were asked if they perceived any changes in their athletic identity, most of the respondents indicated that they felt that their athletic identities became either stronger or weaker. In fact, only one athlete (1/30) responded with "My Athletic Identity stayed pretty consistent throughout the 4 years of competing". Around 50% of respondents (15/30) describe their change in athletic identity as "it became stronger". One athlete said: "I think my identity as a student athlete has only become stronger as I near the end of my time I have gotten more and more scared for life after college sports." Another athlete described the change as: "It for sure has become stronger since being in college when people describe you they use being an athlete as one of the primary descriptors so I have also internalized that." Around 33.3% (10/30) of respondents said that their athletic identities had decreased. One of them said: "I would say the more I became acquainted with campus, the more my identity became less & less attached to just being an athlete. I think understanding that there's so much more to being an athlete helped a lot." A few participants did not respond to this question. As seen above, our results were relatively split between "AI Decreased" and "AI Increased". However, the quantitative data did not show significant changes in overall athletic identity which

creates an interesting contradiction between the athletes self-perceived changes in identity and the measurement scale.

Athletic Identity and Life Satisfaction

The current study also aimed to understand the relationship between athletic identity, and its subscales and life satisfaction. A Pearson correlation coefficient was computed to assess the relationship between 'Total Athletic Identity' and 'Life Satisfaction'. There was no significant correlation found between the two variables indicating that there is no linear relationship between athletic identity and life satisfaction.

We wanted to examine whether there was a relationship between the subscales of athletic identity and life satisfaction. A Pearson correlation coefficient was computed to assess the relationship between the 'AI- Exclusivity' and 'Life Satisfaction'. There was a significant negative correlation found between the two variables ($r(314) = -0.155$, $p < 0.05$), indicating that those as exclusivity of one's athletic identity increases, their life satisfaction decreases.

A Pearson correlation coefficient was computed to assess the relationship between the 'AI- Social Identity and 'Life Satisfaction'. There was a significant positive correlation found between the two variables ($r(312) = 0.188$, $p < 0.05$), indicating that those as those who view being an athlete as a social role tend to have higher life satisfaction.

A Pearson correlation coefficient was computed to assess the relationship between the 'AI- Negative Affectivity' and 'Life Satisfaction'. There was no significant correlation found between the two variables indicating that there is no linear relationship between negative affectivity and life satisfaction.

Factors Influencing the Changes in Athletic Identity

A combination of quantitative and qualitative responses were used to address the second research question focused on the factors influencing the changes in athletic identity. Using open-ended questions, participants were first asked to "Describe how your Athletic Identity (AI) has changed over the course of your college career (e.g., became stronger, weaker)." While athlete responses were relatively split between "increased AI" (16/30; 53.3%), "decreased AI" (5/30; 16.6%), and "Did not change AI" (9/30; 30%) the open-ended responses provided some interesting insight as to how the participant perceived their changes in athletic identity and what they felt most influenced this change. There was a general consensus that aspects of their athletic identities have changed, however some participants indicated that their overall athletic identity became stronger while also recognizing that their negative affectivity decreased by saying:

> *I think I became stronger. I understand my strengths and know how to use them to my advantage. This has made me more confident and has beneficially impacted my skill as well as my mental performance. I also understand how to separate my self-worth from athletic performance.*

Some others had a different experience and stated that their athletic identity had decreased as they started to think about life outside of sports and how what life after sport would look like. One athlete commented:

> *I have realized that I am more than an athlete and more than a softball player. I will graduate and have a career and a family, and that is what is the most important to me.*

Medical retirement (involuntary career termination) was also mentioned by a few athletes as a driving force behind their decrease in athletic identity over the years and one student-athlete even mentioned how medical retirement proved to be "*very difficult for my mental health*" which

demonstrates how athletic identity can impact wellbeing and coping with abrupt career termination.

Reasons Why Athletic Identity Changed

Participants were then asked to respond to Likert-scale questions about the factors influencing the changes in their athletic identity and provide open-ended responses to elaborate on the most important factors and their lived experiences. First, the frequencies of the degree to which each factor was believed to decrease or increase athletic identity are presented in Table 2. Some common themes that the athletes identified as reasons why their athletic identity changed included: coach's support, social status, family support, medical retirement, playing time, future plans and teammate support. These themes were based on the combination of how many athletes mentioned these factors in their qualitative responses as well as the frequencies of the quantitative responses. Each will be described in detail below with coded open-ended responses from student-athletes.

Table 3. Frequency Table for Factors Influencing The Change

Frequencies							
	Strongly Decreased AI	Decreased AI	Somewhat Decreased AI	Did Not Change AI	Somewhat Increased AI	Increased AI	Strongly Increased AI
Playing Time	1	1	0	11	2	7	8
Personal Performance	1	0	0	7	5	11	6
Team Performance	1	1	0	12	5	7	4
Table Continues							

Table Continued							
Injury	4	0	3	15	2	4	2
Coach Support	2	2	1	9	7	5	4
Teammate Support	0	2	1	5	5	8	9
AD Support	1	2	1	15	5	3	3
Family Support	1	0	0	7	3	9	10
Non-sport Friends	1	0	2	13	5	5	4
Academic Identity	1	0	4	16	7	2	0
Post Grad Plans	2	3	5	11	4	2	3
Scholarship Status	0	0	3	11	5	4	7

Coach's Support Influencing Athletic Identity

Coach's support was identified as a key contributor to changes in athletic identity both on the positive and negative side. Based on our frequency table, only 30% of athletes (9/30) said that coach's support 'did not change' their athletic identity. When asked to elaborate, most athletes that their relationship with their coaches was very important to them and greatly impacted their athletic identity during their time in college.

Coaches increasing athletic identity. Many athletes that were surveyed indicated that they had a positive relationship with their coach and that helped increase their athletic identity over their college careers. An athlete stated:

> *My confidence changed a lot throughout my years at ISU and that was most in part to my assistant coach. He helped me find confidence in my hard workouts and competitions which has brought the best out of me in my most recent years*

Coaches decreasing athletic identity. For some, this may have been more a negative experience than others. For example, one athlete said:

> *The first thing that pushed me to not fully identify with being an athlete was the head coach. My freshman year I was outgoing from the beginning, brought so much energy to the team and absolutely loved it and my coach loved me. I quickly become one of their favorites and I liked them just as much as they liked me. Until my sophomore year when they made me feel like everything that had ever happened up to that point in my college career was my fault (my bad performance, people treating me unfairly, blaming me for how they treat me now), they made comments at me, I would see them make comments at other people, I noticed them trying to control me, and they slowly started to no longer talk to me as much as they once did. I went from wanting to do a fifth year here and compete another year to feeling drained mentally and physically as a junior. Having someone who is in authority over you, of whom you build so much respect for, tell you that you are the problem, make comments about your body, and distances themselves made me feel terrible about myself. My junior year was truly one of the hardest and most eye opening years of my life. They continued to blame me for how our relationship crumbled and would say stuff like "I will just never understand or get you". It truly tore me up, but it also opened my eyes to my life outside of my sport, my friends, my hobbies, my academics, and how to compete in my sport for myself. I no longer wanted to truly identify with something that wouldn't support me. It truly was one of the lowest points in my life, but it was a gift more than it was a curse at the end of the day. Even though I came out a better person for it I should've never had to go through the emotional trauma and roller coasters that I did to realize that. I hope that no one else has to question their*

good heart because of how someone in authority treats them especially a coach of a sport you once loved.

Another athlete had a similar experience and stated that:

The coaching staff changed my love for the game so I felt not as invested in the sport which decreased my athletic identity.

The reflections demonstrated how the relationships with coaches are a crucial factor in the extent to which an individual views themselves as an athlete.

Social Support Increasing Athletic Identity

Family, friends and teammate support was mentioned as a reason for changes in athletic identity and was also found to be important through the Likert-scale as 76.6% of athletes viewed family support as a contributing reason (33.3% said 'strongly increased AI') and 83.3% of athletes considered teammate support to be important with 30% of those athletes saying that it 'strongly increased' their athletic identity.

These was also a recurring theme in the open-ended portion of the survey as multiple athletes indicated that the perceived support that they received often positively impacted their athletic identity. As one athlete said:

My family play a major role in my athletic identity. They have supported me throughout the ups and downs and since I start competing the many years ago. The last major factor is my teammates. They have helped me build an identity and pushed me to my limits as an athlete to better myself. They have helped me become someone the underclassmen look up to for support and leadership.

Team culture and the teammate support seemed to be important in how athletes perceived themselves and how much they wanted to identify with the role of athlete.

Medical Retirement and Playing Time Influencing Athletic Identity

Not being able to participate in sports, whether that is due to injury or lack of playing time, was found to impact their athletic identities.

Medical retirement decreasing athletic identity. While the severity of the injury would be an important factor to consider, two athletes talked about their experience medically retiring and how that involuntarily forced a decrease in their athletic identity. One of them stated:

> *Medically retiring changed my perspective on myself and my worth. I felt worthless and like a failure after I retired and there were not many resources available to me.*

The other athlete had similar thoughts to share by saying:

> *Medical retirement - had to focus on something other than my athletic identity because I could not compete.*

Playing time increasing athletic identity. Playing time had a similar effect as athletes reported that not being selected to play decreased their athletic identity and confidence while playing and performing well were positive influences on their AI. An athlete explained this by saying:

> *I would say playing time and leadership positions forced me to understand my athletic identity and priorities so that I would portray confidence.*

Future Plans Influencing Athletic Identity

Future plans for life beyond college was the last recurring theme in our thematic analysis and this provided some mixed feedback.

Future plans decreasing athletic identity. While some athletes viewed this as a more positive transition and described this as something that decreased their athletic identity as they started to see that there was more to life than sports. Several athletes mentioned that as they are

approaching retirement, they started making more friends outside of sports and started engaging in other activities that would help prepare them for a future career outside of sports. One athlete said:

> *My stress regarding my post graduate plan has decreased my athletic identity for sure because I have come to realize that unless I plan on having a career in sports, no one will care if I have won my matches.*

Some athletes reported to be more prepared for this transition than others. And while many had accepted the retirement status and started to view themselves as more than athletes, some struggled with this notion which may lead to anxiety. One athlete described their changes in athletic identity saying that while playing time increased their AI after their freshman year, their lack of future plans decreased their AI in their senior year:

> *I think the more I started playing after my freshman year my AI only increased. Additionally, my plans after college has influenced my identity because I am nervous for what is next.*

Social Status Increasing Athletic Identity

This was a factor that we had not proposed in our Likert-scale options but was mentioned multiple times throughout the survey and identified as important through the inductive thematic analysis. Athletes talked about the social status that comes with being an athlete in college. This often manifested itself in class where they introduced themselves as athletes and other students would recognize them as such. These themes indicate that they identified more with the athlete role as it increased their social status and separated them from other students. They also started to use the term "athletes" and introduce themselves as that which created that distinction. One athlete said:

When doing formal introductions in my classes, I began to introduce myself as an athlete along with my name, major, and age. People in my classes recognized me as an athlete and I was reminded of my status on multiple occasions.

Social media also became a prevalent theme as athletes felt that their social media feeds became more sport focused. One athlete said:

Most of my social media became occupied with moments from my sport. The interactions on my posts had an extreme influence on my athletic identity.

Another athlete talked about how they received support from the social media support team at their university and it provided topics of discussion with him and his social circle by saying:

With the more support and media coverage we got as a team, my AI increased because I was able to post online or others would bring it up in conversations more often.

CHAPTER V: DISCUSSION, LIMITATIONS, FUTURE RESEARCH DIRECTIONS

Discussion

The purpose of this study was to examine and understand how athletic identity and life satisfaction change in college student-athletes during their college careers and explore the factors that influenced the changes in athletic identity over time. We had the unique opportunity to follow a group student-athletes as they navigated their college careers and get an insight as to how they felt their identity changed while also collecting quantitative data. Data for athletic identity and its subscales along with life satisfaction were collected at 4 different time-points starting in freshman year (T1, T2, T3) and ending in the athlete's traditional senior year (T4). It was found that overall athletic identity remained relatively constant throughout their collegiate careers and there were no significant changes found when comparing the different time points. Research looking at changes in athletic identity have been inconsistent with explaining the changes over time and produced contradicting results. Our results best align with the findings by Houle and colleagues (2010) who found that there were no significant changes in athletic identity from age 15 to age 22 in collegiate gymnasts. Our results contradict the findings of various other research studies that found that athletic identity significantly decreases during college years (Brewer et al., 1993; Greendorfer & Blinde, 1985; Miller & Kerr, 2003). However, it might be that previous studies have not found differences in athletic identity over time because they did only took total athletic identity scores and did not include the subscales, which measure different aspects of the construct.

Our study provided unique insight in the specific changes in the athletic identity subscales (i.e., social identity, exclusivity, negative affectivity). Our findings revealed significant changes in the subscales of athletic identity when looking at the differences between Time 1 and

Time 4. In fact, all three of the subscales were significantly impacted by time passed. Social identity had significantly increased from Time 1 to Time 4 indicating that the athletes increasingly viewed being an athlete as a social role. These findings are notable as few studies have reported findings from the AIMS sub-scales and specific changes over time (Lochbaum et al., 2022). The athletes in our study explained this notion when asked about the reasons for their changes in athletic identity. Many athletes claimed that they started to introduce themselves as athletes in classes and they felt that the social status, that accompanied their role as athlete, increased their athletic identity. Being an athlete became a distinctive feature for these individuals and they started to view it as a social role.

The exclusivity subscale saw a significant reduction as from Time 1 to Time 4 meaning that while athletes still identified with the role of athlete, they started to explore other identities as well which is desirable to prevent identity foreclosure (Marcia, 1966; Petitpas, 1978). This was once again evident in the short answer responses as multiple respondents had mentioned that they started to think of themselves as more than just athletes and that their performances do not define who they are or their ability to succeed in the real-world. Reduced exclusivity can lead to better transition outcomes as individuals start to explore identities outside of sport which can help their adjustment to postretirement life and overall life satisfaction which is a form of self-protection (Lally, 2007; Martin et. al., 2014). Kaufman and Feldman (2004) described the college years to be very important in identity development due to the various new social groups that an individual is exposed to during this time. From a sociological lens, there may have been a change in the exclusivity subscale due to the new social groups that the athletes starting spending time with. A few participants mentioned this in the open-ended option mentioning that they developed close friend groups outside of sports which decreased their perceived athletic identity.

Negative affectivity was also significantly lower when comparing Time 1 to Time 4 meaning that the extent to which athletes negatively reacted to not being able to participate in sports was reduced which is once again a desirable outcome when thinking about the psychological impacts of transitions and injuries. Athletes with high athletic identities can experience emotional disturbances when unable to participate in sports which can lead to distress. Brewer and colleagues (1993) mentioned that athletes who place much importance to their athletic identity may base their self-worth around the performance which includes their successes and failures. When unable to participate, they are unable to perform which can lead to a loss of sense of self and difficulty adjusting. Some athletes expressed this concern by talking about their medical retirement as a driving force behind their decrease in athletic identity. However, it is important to note that this also negatively impacted their mental health as this transition occurred involuntarily.

When looking at life satisfaction, our results indicated a significant increase from Time 1 to Time 4. Athletes reported higher life satisfaction in their senior year than they did in the beginning of their freshman year of competition. Given the results from the athletic identity scale, we can hypothesize that this may have occurred due to changes on the subscales. The decrease in exclusivity indicates that the athletes may think less exclusively of themselves as just athletes. They may have started to explore other identities, started interacting more with other social groups outside of sports and may have started exploring activities outside of sports that they may enjoy as a form of self-protection to better prepare for retirement (Lally, 2007, Martin et. al., 2014). One interesting finding, although not significant, was that life satisfaction did see a slight decrease from Time 3 (M= 5.40) to Time 4 (M= 5.00). This would indicate that life satisfaction was slightly higher at the end of the first semester freshman year compared to their

senior year. This may be as the athletes had gotten used to the time constraints of being a student-athlete were starting to feel more comfortable in their new environment. This period of time was also unique as it was the a few months prior to the world-wide Covid-19 pandemic which may have impacted the results as athletes were not able to compete in their sports. In fact, the NCAA reported an increasing number of mental health concerns in their annual survey in the last few years and in 2021 their survey found that 31% of student-athletes had Covid-19 health concerns which negatively impacted their mental health (NCAA.org, 2021). The NCAA also stated that "The data indicated rates of mental exhaustion, anxiety and depression have seen little change since fall 2020 and remain 1.5 to two times higher than identified before the COVID-19 pandemic" (NCAA.org, 2022, p. 2). Our results indicate that the pandemic did not influence overall athletic identity scores however, it may have played a role in changes in other variables. Given the relatively high athletic identity scores, life satisfaction may have become lower compared to Time 3 as athletes may have started to experience anxiety about their future plans and the possibility of retirement as well as the impact of the Covid-19 pandemic.

An interesting pattern did emerge during data analysis which was that while we saw a significant change from Time 1 to Time 4 in most variables (social identity, exclusivity, negative affectivity and life satisfaction), there was no significant change from Time 3 to Time 4. This indicates that there was a big change within these domains during the first semester of freshman year and after the completion of the semester, these variables remained relatively consistent throughout the college career. This may be a result of the completion of the resilience-based educational program that is offered at this University for freshman student-athletes to help their transition into college, however the results indicate otherwise. Time 1 and Time 2 were the pre-test and post-test surveys of the program, and we did not find as many significant changes.

Perhaps the student-athletes became more comfortable with their time management skills and new environments which may have contributed to the results and were upheld for the rest of their careers.

The differences between the quantitative and qualitative responses regarding changes in athletic identity bring up an interesting discussion on how student-athletes perceive what athletic identity is. Given the quantitative data we saw no changes in overall athletic identity however, based on the athlete's self-perception, they felt as though their identity had changed. This may have occurred as the athletes are unfamiliar with the subscales of athletic identity and the complexity of it. It is possible that they may have felt changes within the exclusivity, negative affectivity and social identity levels but were unaware that these are subdimensions of the overall athletic identity. Future research should explore the differences further to better understand what athletes perceive as athletic identity and what this part of their identity means to them. Future research could look at the differences between self-perception of identity and the measurement tools to examine what student-athletes perceive as athletic identity.

The current study also looked at the relationship between athletic identity and life satisfaction and yielded some intriguing results. The correlation indicated a positive relationship between social identity and life satisfaction, a negative relationship between exclusivity and life satisfaction and no significant relationship between life satisfaction and total athletic identity and negative affectivity. This indicates that athletes who increasingly viewed being an athlete a social role reported higher levels of life satisfaction and those who exclusively identified as an athlete reported lower life satisfaction. This may be because those who scored high on social identity were enjoying the perks that arise from having a social status as an athlete. Studies found that athletic identity decreases over the course of a college career and may lead to better adjustment

outcomes after retirement (Brewer & Cornelius, 2001, Brewer et. al., 1993, Lavelle et. al., 1997; Martin et. al., 2014; Menke & Germany, 2019). However, this may be as a function of retirement and a form of self-protection (Martin et. al., 2014). Martin and colleagues (2014) found that retirement status acts as a moderator between athletic identity and life satisfaction and athletes who are thinking about retirement reported lower athletic identity scores. It is possible that the athletes in our sample may have not started thinking about retirement as they may still have eligibility left based on the new eligibility rules from the NCAA following Covid-19.

Practical Implications

There are several practical implications to the current study. Only 2% of student-athletes go on to play professional sports after their college careers (NCAA.org) indicating that 98% of student-athletes retire. Research shows that high levels of athletic identity may results in difficulty dealing with sport transitions including retirement (Lally, 2007; Pearson & Petitpas, 1990). By understanding how athletic identity changes and the factors influencing this change, transition programs catered to senior athletes can be developed focusing on mental skills and life-transfer skills that can help adjust to the post-retirement life. The implementations of these programs can possibly help reduce anxiety and distress surrounding retirement and can help student-athletes prepare for a future career outside of sports. Practitioners can use these results to better understand underlying factors that may cause distress (lowering AI) in the athletes as well as factors that may motivate (increasing AI) them. The environment that athletes are in seemed to be an important factor which is something that can be changed by providing coaches with additional education on mental health in athletes and promoting a supportive environment to encourage athlete development.

Limitations

There are a few limitations with this study that would need to be addressed in future research. One was the retention rate of the student-athletes who participated in the study. We had different number of participants at all 3 time-points, and it decreased from 73 to 32 participants from Time 3 to Time 4 giving us a retention rate of 43.8%. This greatly decreases power due to the low sample size at Time 4. Another limitation that we ran into was the rule changes within the NCAA regarding eligibility. The Covid-19 pandemic led to additional years of eligibility for student-athletes hence, even though they were surveyed 4 years apart, which would be considered their traditional senior year, some athletes may still participate in college sports for additional years which may impact their athletic identity. Due to this some athletes may have not reached the retirement stage which could result in higher athletic identities. Furthermore, the time-points could have been more spread out to provide data from each year of competition to assess the changes at different levels of competition. Our sample consisted of NCAA Division I athletes which may have led to higher athletic identity scores to begin with. According to the meta-analysis conducted by Lochbaum and colleagues (2022) higher-level athletes may self-report higher levels of athletic identity. Thus, these results cannot be generalized among all divisions within the NCAA or other levels of competition. Another limitation was the reliability measures for the negative affectivity subscale. The Cronbach's alpha values indicated that there was low reliability and internal consistency between items at Time 1 (α= 0.452), at Time 2 (α= 0.439) and at Time 4 (α= 0.677). The results should be evaluated with caution due to the low internal consistency, which mirrors past studies that have used the AIMS scale. The low alpha values are to be expected given that this subscale only includes 2 items which may result in lower internal consistency.

Future Research Directions

Future research should include more time-points to assess differences in athletic identity and its subscales during different years of competition (freshman, sophomore, junior and senior). Including interviews with athletes at each data point to learn more about their experience that year may also provide more qualitative data that describes their perceived changes. Samples should include more athletes from different divisions to assess if level of competition is a moderator in changes in athletic identity throughout a college career. We approached the factors influencing the change from an exploratory lens, future research should look at this variable more deliberately to really understand the influence that may cause change. Future research should also follow the athletes past graduation to assess changes in athletic identity and life satisfaction post-retirement.

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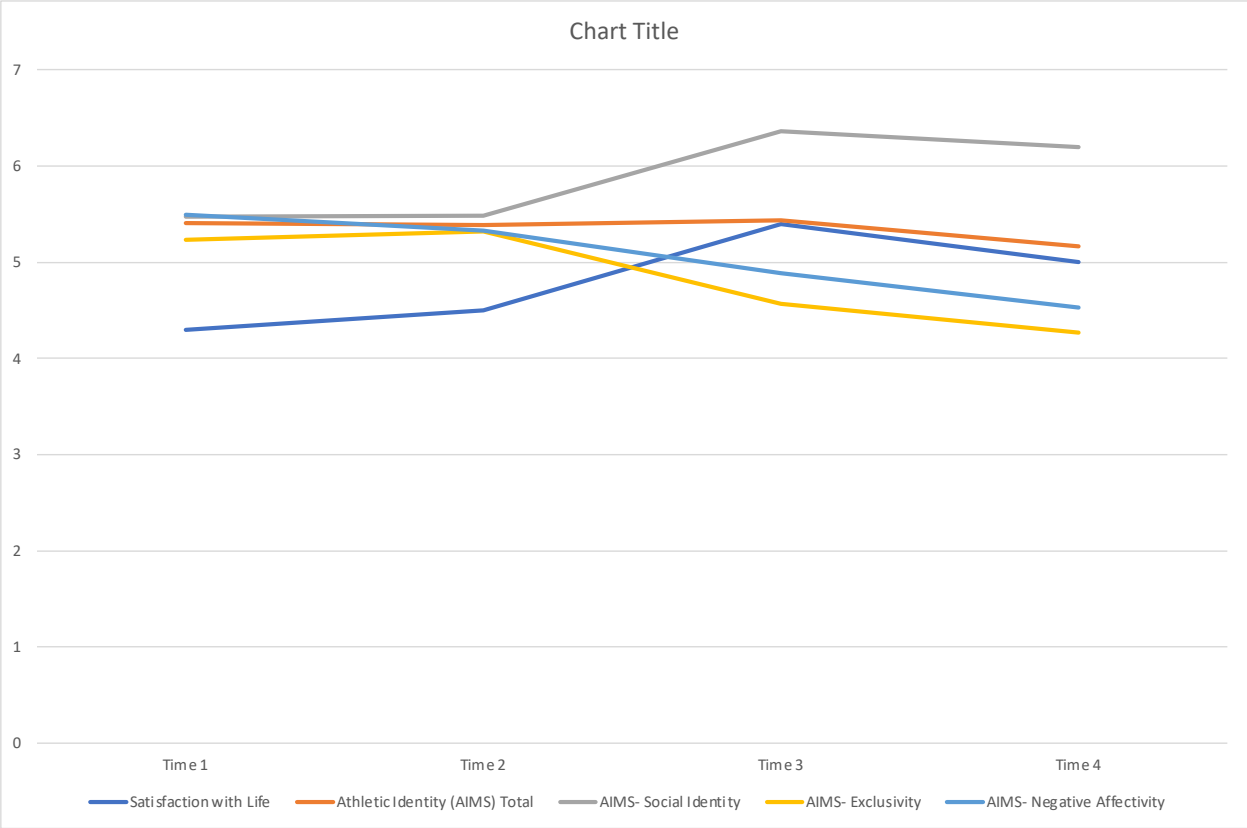
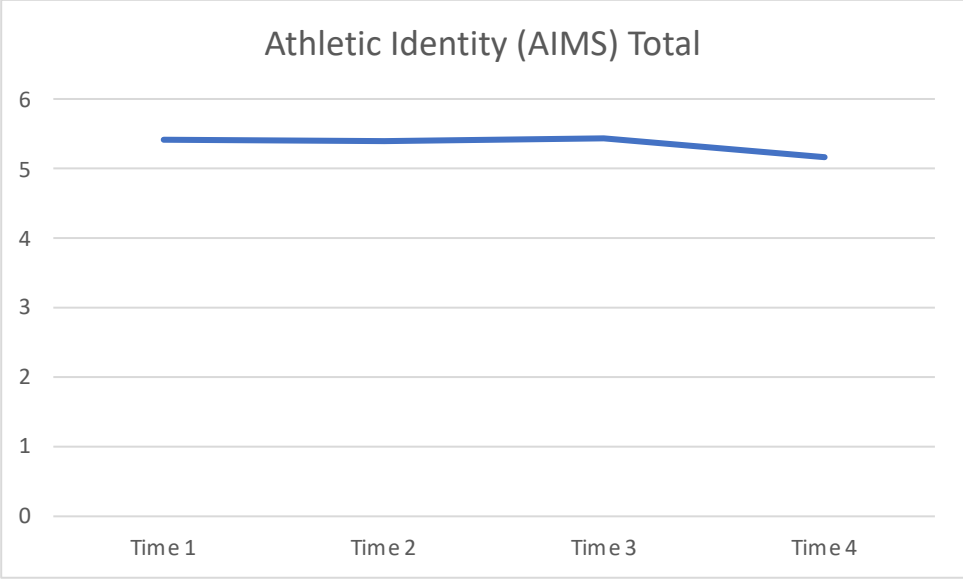
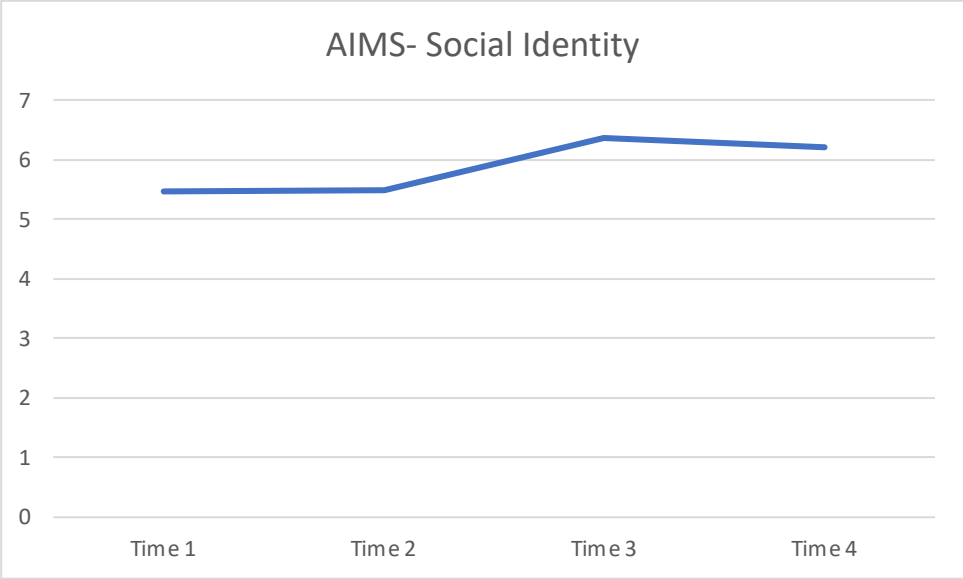
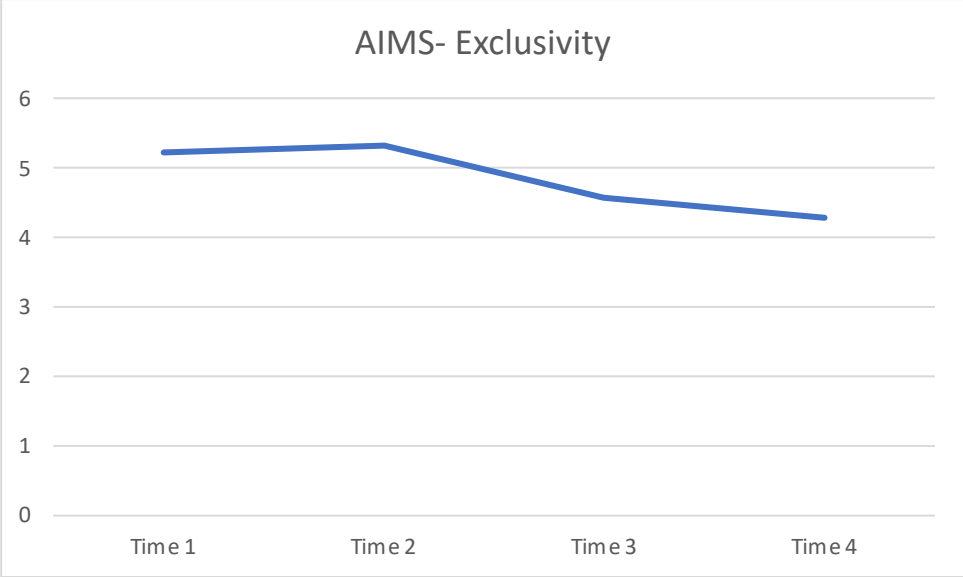
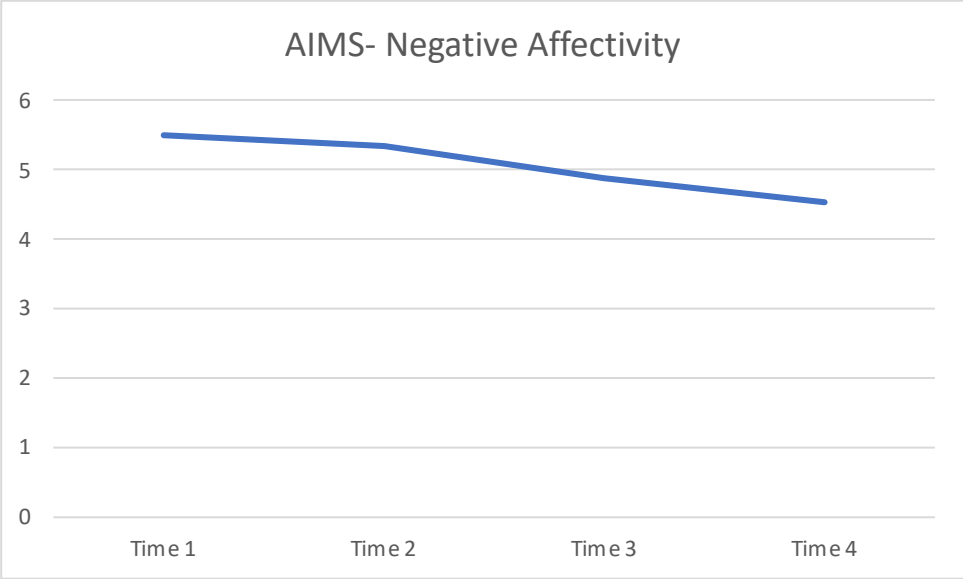
APPENDIX A: GRAPHS






AIMS- Social Identity
7
6
5
4
3
2
1
0
Time 1
Time 2
Time 3
Time 4


AIMS- Exclusivity
6
5
4
3
2
1
0
Time 1
Time 2
Time 3
Time 4


AIMS- Negative Affectivity
6
5
4
3
2
1
0
Time 1
Time 2
Time 3
Time 4

Satisfaction with Life
6
5
4
3
2
1
0
Time 1
Time 2
Time 3
Time 4

APPENDIX B: SURVEY

Student-Athlete Survey

The insights you provide will be very helpful to us in understanding your college sport experience. All responses are confidential.

Ethnicity (select all that apply)

- O American Indian or Alaska Native
- O Asian
- O Black/African-American
- O Caucasian/White
- O Hispanic/Latinx
- O Native-Hawaiian or Other Pacific Islander
- O Prefer to Self-Describe (list) _____

Gender

- O Male
- O Female
- O Non-Binary/third gender
- O Prefer not to say
- O Prefer to self describe:_____

Current Collegiate Sport _____

Athletic Scholarship Status:

- O Full Scholarship
- O Partial Scholarship
- O No Scholarship

Number of Years/Seasons of Remaining NCAA Eligibility After the 2022-23 Academic Year

- O 0
- O 1
- O 2
- O 3

Part I – Athletic Identity Measurement Scale

Fill in the circle that best represents how much you agree or disagree with that statement.

		Strongly Disagree			Somewhat Agree			Strongly Agree
1.	I consider myself an athlete.	O	O	O	O	O	O	O
2.	I have many goals related to sport.	O	O	O	O	O	O	O
3.	Most of my friends are athletes.	O	O	O	O	O	O	O
4.	Sport is the most important part of my life	O	O	O	O	O	O	O
5.	I spend more time thinking about sport than anything else.	O	O	O	O	O	O	O
6.	I need to participate in sport to feel good about myself.	O	O	O	O	O	O	O
7.	Other people see me mainly as an athlete.	O	O	O	O	O	O	O
8.	I feel bad about myself when I do poorly in sport.	O	O	O	O	O	O	O
9.	Sport is the only important thing in my life.	O	O	O	O	O	O	O
10.	I would be very depressed if I were injured and could not compete in sport.	O	O	O	O	O	O	O

Part II

Please answer the questions below related to your 'Athletic Identity' (AI):

Athletic Identity (AI) refers to "the degree to which an individual identifies with the athlete role"

1. Describe how your Athletic Identity (AI) has changed over the course of your college career (e.g., became stronger, weaker).

2. If your Athletic Identity (AI) has changed over the course of your college career, explain why.

2. How much did the following factors influence your 'Athletic Identity' (AI)? (i.e., How much did the following factors influence the degree with identify with the athlete role?)

	Strongly Decreased My 'AI'					Did Not Change My 'AI'				*Strongly* Increased My 'AI'	
Your participation opportunities	O	O	O	O	O	O	O	O	O	O	O
Your personal performance	O	O	O	O	O	O	O	O	O	O	O
Your team performance	O	O	O	O	O	O	O	O	O	O	O
Injury/injuries	O	O	O	O	O	O	O	O	O	O	O
Teammates and team support	O	O	O	O	O	O	O	O	O	O	O
Athletic department support	O	O	O	O	O	O	O	O	O	O	O
Family support	O	O	O	O	O	O	O	O	O	O	O
Your friends outside of sport	O	O	O	O	O	O	O	O	O	O	O
Your academic identity	O	O	O	O	O	O	O	O	O	O	O
Your post-graduate plans	O	O	O	O	O	O	O	O	O	O	O
Other: _____	O	O	O	O	O	O	O	O	O	O	O
Other: _____	O	O	O	O	O	O	O	O	O	O	O

3. Please elaborate on specific changes to your 'Athletic Identity'. Identify up to three of the most influential factors and explain how and why they changed/influenced your 'Athletic Identity'

1.

2.

3.

Please read each question and fill in the circle that best represents how much you agree or disagree with that statement.

Part III - The Satisfaction with Life Scale

		Strongly Disagree	*Disagree*	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1.	In most ways my life is close to my ideal.	O	O	O	O	O	O	O
2.	The conditions of my life are excellent.	O	O	O	O	O	O	O
3.	I am satisfied with my life.	O	O	O	O	O	O	O
4.	So far I have gotten the important things I want in life.	O	O	O	O	O	O	O
5.	If I could live my life over, I would change almost nothing.	O	O	O	O	O	O	O

Thank you for your participation!

ILLINOIS STATE
18
Gladly
we learn
and teach
57
UNIVERSITY