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Athletic identity, identity foreclosure, and career maturity: An investigation of intercollegiate student-athletes.

by

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ABSTRACT

The purpose of the present study was to examine the strength of the relationship between level of identification with the role of athlete (athletic identity), identity foreclosure, and career maturity among 367 male and female NCAA Division III student-athletes participating in basketball, track and field, soccer, and cross country from four colleges in a nationally competitive NCAA Division III athletic conference in the Midwest. Questionnaire data showed that 91% of the respondents identified as Caucasian and 55% were male. The average age of participants was 19.96 years, and freshman (38%), sophomores (26.8%), juniors (21.1%), and seniors (13.2%) were all represented in the sample. Instruments that comprised the questionnaire included the 50-item Attitude Scale of the Career Maturity Inventory (CMI), the 10-item Athletic Identity Measurement Scale (AIMS), the 6-item Foreclosure Subscale of the Objective Measure of Ego Identity Status (OM-EIS), and the 10-item Public-Private Athletic Identity Scale (PPAIS). Demographic questions were also included.

Pearson product moment correlations showed that identity foreclosure scores ($r = -.13, p < .05$), AIMS scores ($r = -.15, p < .01$), public athletic identity scores ($r = -.34, p < .01$), private athletic identity scores ($p < -.16 , p < .01$), and PPAIS total scores ($r = -.33, p < .01$) were all inversely related to career maturity scores. A stepwise regression analysis with career maturity as the dependent variable showed that public athletic identity entered first and explained 11% of the variance in career maturity. Private athletic identity was the only other significant association and added 1% more variance explained. A MANOVA found no significant main effect for gender, but did show a significant main effect for specific sport
Wilks’ $\lambda = .88, F(10, 706) = 4.59, p < .01$. Univariate analyses suggested that basketball players displayed higher levels of identity foreclosure ($\eta^2 = .09$) and public athletic identity ($\eta^2 = .02$) than track and field/cross country and soccer, and that track and field/cross country showed the highest level of career maturity ($\eta^2 = .02$) of the three groups. Although the relationships found in the present study are in the same direction as shown with previous research among NCAA Division I student-athletes, the relationships among this sample of NCAA Division III student-athletes were much weaker. These data suggest that NCAA Division III student-athletes may negotiate their identity hierarchies differently than student-athletes competing at the NCAA Division I level.
CHAPTER 1: INTRODUCTION

The terms identity and self concept are often used arbitrarily when an individual describes the locus of his or her beliefs, actions, or interpretations. Despite the use of terms like this in casual dialog, the complexities of these terms are rarely fully explored in lay conversation. Role identities, when fully understood, can be a very useful concept when seeking to understand the behaviors of individuals.

One of the early pioneers in the development of the concept of identity was symbolic interactionist, George Herbert Mead (1934). Though some psychologists alleged that the human mind operated in a simple stimulus-response manner, Mead (1934) believed a person’s identity was developed through a dynamic process of social interaction and reflexivity. Through the development of this new idea, Mead (1934) laid a very important framework for future investigation of social psychological development. Cooley (1902) also played a vital role in the area of social psychological development by introducing the concept of the looking glass self, which provided an example that described how a person develops their concept of self. Cooley (1902) suggested that an individual imagines how he or she appears to others, envisions how that appearance is judged by others, and finally develops their concept of self by interpreting that perceived judgment from others. Thomas (in Coser, 1989) expanded on these ideas by suggesting that the context of the social situation plays a large part in the development of the concept of self and that these contexts lead to behavioral expectations both by the individual and the others with whom he or she is interacting.

In an effort to continue examining these processes, Stryker & Burke (2000) investigated social groups and networks and the positions that individuals occupy within
those groups. Stryker and Burke (2000) found that there were behavior expectations connected to positions within a social group and termed this a social role, and through internalized social roles, identities are formed (Stryker & Burke, 2000). Because individuals are typically involved in several social networks, they develop a variety of identities as well. Identities and behaviors are involved in a reciprocal relationship wherein each influences the other. This relationship is evidenced in empirical research that investigated identities in relation to organ donation (Gargano, Nagy, and Rowe, 2004), spousal roles (Cast, 2003), and the experiences of intercollegiate basketball players (Adler & Adler, 1987).

Stryker (1968; 2007) proposes that identities are organized in a hierarchy and that the more salient a particular identity is, the more likely it will surface during social interactions whether or not that is the most appropriate identity to draw upon in that particular situation. The salience of a particular identity in the hierarchy is impacted by others who are in the individual’s closest social circle. If those in the social circle place a high importance on a particular identity, the individual is likely to be more committed to that identity and thus, the identity is likely to be more salient than other identities in the hierarchy. Research involving blood donors (Callero, 1985), motherhood (Nuttbrock & Freudinger, 1991), exercisers (Anderson, Cychosz, & Franke, 1998, 2001), and college athletes (Adler & Adler, 1991) has shown that the behavioral choices of an individual can provide information for where a particular identity is located in their hierarchy and salience of an identity can be used to predict behavior.

The organization of an individual’s hierarchy may result in competing identities depending on the social situation. Goffman (1959) suggested that certain role-related behaviors may not be appropriate in every social situation. If an individual does not
appropriately match their behaviors to the social context, role overload and role conflict may result. Identity foreclosure occurs when an individual settles into a single identity, closing off any further exploration of other identities in their hierarchy and often happens in order to resolve or avoid role conflict (Erikson, 1956).

The concepts of identity hierarchies, salience, and identity foreclosure can be used to provide a better understanding of the identity structures and possibly behaviors of student-athletes. It has been suggested that a highly salient athletic identity may lead to identity foreclosure in student-athletes. This may be especially disconcerting for student-athletes competing on the collegiate level as they often face pressures to excel athletically from a variety of sources. Because of the growing interest in collegiate athletics and the possibility that student-athletes may be negatively affected by role conflict and identity foreclosure, the relationship between athletic identity, identity foreclosure, and career maturity has been of some interest among sport scholars over the past three decades. Research involving NCAA Division I student-athletes has largely suggested that student-athletes experienced impaired career maturity (Murphy, Petitpas, & Brewer, 1996; Kennedy & Dimick, 1987; Sowa & Gressard, 1983; Smallman & Sowa, 1996). On the other hand, research conducted with collegiate student-athletes competing at levels other than NCAA Division I have yielded less consistent results. Some research suggests that no relationship exists between career maturity and varying levels of competition (Brown & Hartley, 1998), or that student-athletes may well have high levels of career maturity paired with highly salient athletic identity (Griffith & Johnson, 2002). Other work suggests that student-athletes may experience a brief period of identity foreclosure during the first years of college as they assimilate into their new athletic
role, but later on explore more identities as they realize that competing on the professional level is not likely (Miller & Kerr, 2003).

It is difficult for these equivocal findings to provide valuable insight into the developmental course of student-athletes and their career planning during college years. It is particularly important to note that the trends related to student-athletes competing at the NCAA Division I level do not necessarily align with the findings among student-athletes competing in other divisions. When one examines the separate philosophical approaches adopted by the NCAA for the respective divisions, it is evident that the foundations of the two domains may be quite different.

At the NCAA Division III level, athletes are not allowed to accept any financial aid that is related to their athletic abilities, there is a belief that athletics is only one part of a complete educational experience, and an emphasis is placed on the holistic experience of the student-athlete as the principle outcome of participation (NCAA, 2008a). On the other hand, at the NCAA Division I level, athletics are operated in more of a businesses-like manner, where emphasis is often placed on attendance, income, and physical performance of teams and athletes, rather than directing the bulk of the focus on the athletes’ college experience as a whole (NCAA, 2008b). Because of these fundamental differences, athletes at the NCAA Division III level may negotiate their identities differently throughout their collegiate careers than what has been suggested by previous research at the NCAA Division I level. It is possible, because of the different philosophical approach taken at the NCAA Division III level, that these athletes may show evidence that they have explored career options more fully and participated more in career planning for life after their athletic career. If this holds, it is likely that both male and female NCAA Division III student-athletes are more prepared
to make a smooth transition from student-athlete to their role in the working world and thus, will fail to show a strong inverse relationship between athletic identity and identity foreclosure, as well as athletic identity and career maturity.

The purpose of this study was to examine the strength of the relationship between level of identification with the role of athlete (athletic identity), identity foreclosure, and career maturity among male and female NCAA Division III student-athletes. The study also examined differences in athletic identity, identity foreclosure, and career maturity by specific sport and explored public and private aspects of athletic identity.
CHAPTER 2: REVIEW OF LITERATURE

Identity Theory

Using the concept of role identities within the framework of identity theory offers a useful tool-kit for understanding complex lives and circumstances. With its early roots dating back to the work of Mead (1934), identity theory is situated within the larger paradigm of symbolic interactionism. This microtheory of sociology posits that humans do not simply react to stimuli presented to them. Instead, meanings are derived from interpretations of stimuli by actors in a given situation (Blumer, 1969; Mead, 1934). Thus, one creates meaning through interactions with others and his or her social world, and in the process, the social world in which one is acting, also changes. The concept of self develops through this process. In a simplified statement, “society shapes self shapes social behavior” (Stryker & Burke, 2000, p.283).

Another pioneer in the development of the concept of self, Cooley (1902), provided a unique example, the looking glass self, which helped to clarify the concept of self. This example reiterates the idea that social interactions impact the development of the concept of self. The first component of this concept is that one imagines how he or she must appear to others. Second, one imagines what the judgment of that appearance is. Finally, one develops his or her own concept of self based off of his or her perceived judgments from others. Merely staring into a mirror and seeing one’s reflection does not invoke a concept of self. It is how one believes that others view him or herself that perpetuates the development of the concept of self.
How one believes others to see him or herself is largely dependent on the contexts in which they are engaging in social interactions. As Thomas (in Coser, 1989) suggests, participants engaging in interactions must agree on the expectations of each other during the interaction as well as their respective identities. When either the expectations or identities are not mutually agreed upon, it is likely that one, or both, participants will act in a way that is incongruent with the other’s expectations. In Goffman’s (1959) discussion of social interaction, he calls these moments “inopportune intrusions.” In other words, one is seen behaving in a way that does not align with others’ expectations for that individual’s behavior. For example, in the classroom setting, student-athletes and instructors may encounter this issue. An instructor may expect the identity of student to take precedence over athlete in the classroom, but the athlete may expect that the instructor treat him or her as an athlete first and be less concerned with his or her performance as a student.

This example shows that the self does not stop at a one-dimensional concept of who a person believes they are. Because of the variety of social situations and networks individuals are involved in, a person develops a concept of self which may involve the acquisition of several identities with which they relate. In each of these social groups or networks, an individual occupies a certain position and has specific duties they are expected to carry out in relation to each particular position. This is termed a social role (Stryker & Burke, 2000). An identity occurs when one internalizes their social role. Therefore, “identities are then self-cognitions tied to roles and, through roles, to positions in organized social relationships” (Stryker, 2007, p. 1092). In other words, an identity is how a person thinks of him- or herself in relation to a particular social role he or she may have. One does not have a single identity,
but a variety of identities developed through various social situations. For example, a young woman may develop the identities of daughter, sister, friend, student, and employee.

It is important to understand that identities do not automatically determine behavioral responses, but that identities and behaviors are involved in a reciprocal relationship with one another. As one’s sense of a particular identity becomes stronger, it is likely that the behaviors associated with that identity become more frequent. In turn, as the behaviors associated with a particular identity are employed in social situations and get positively reinforced, that particular identity may be strengthened.

In a study investigating volunteer identity and likelihood of commitment to organ donation, Gargano, Nagy, and Rowe (2004) found that, although volunteer identity was not a significant predictor of organ donation intention, volunteer identity was the main predictor of how many times one served as a volunteer each month ($R^2 = .18$) and year ($R^2 = .16$). This suggests that identity can, in fact, predict behavior to a certain extent and possibly, behavior may predict identity salience. Cast (2003) examined the reciprocal effects between identity and behavior in an investigation of spousal role identities in relation to household activities during the first two years of marriage. Contrary to Gargano et al. (2004), Cast (2003) did not find statistically significant effects of spousal identity on behavior in household activities. However, the results suggested that spousal behaviors that individuals engaged in did influence the salience of their own spousal identities. In a observational study of NCAA Division I intercollegiate male basketball players, Adler and Adler (1987) found that as student-athletes assimilated into the life of a college athlete on a well-known and highly glorified team, their athletic, social, and academic identities all experienced changes. Though cause and effect cannot be determined through this study, the information suggests that as the
identity of the players as athletes became more salient, behaviors associated with their athletic role also increased. Likewise, as their roles as students or peers became less important to them, their behaviors associated with those roles, like attending class or striving for academic excellence, also decreased. These studies provide evidence that identities can serve as predictors of behavior, but also that behaviors can reinforce identities and thus influence identity salience.

However, because individuals develop many identities as they engage with a variety of social groups, they may have identities that do not always serve as the strongest predictors of their behavior. Identity salience refers to the likelihood of one of these identities surfacing in many different situations that require behavioral responses (Stryker, 1968; 2007). For example, if “student” was a salient identity for a young woman, her behavioral responses would likely be connected to the actions expected from a person occupying the position of student, despite the social context of the situation with respect to other identities such as athlete or employee.

The order of the hierarchy is largely dependent on the commitment of the individual to particular identities. Commitment to a particular identity is often influenced by significant relationships the individual has with others. Using the previous example, if a young woman’s parents and close friends place a high value on her role as a student, it is likely that “student” is a salient identity for the woman. Because the identity of “student” is elevated on her identity hierarchy, she would likely perceive failing to prepare her homework as a very costly action as it could negatively affect her closest relationships. She would not let another, less salient identity, such as “employee” override her commitment to her identity as “student”. The more committed one is to a particular identity, the higher the costs will be if their actions
deviate from those behaviors associated with that identity (Stryker, 1968, 2007). It is here
where it is demonstrated how commitment and identity salience interact. Scholars believe
that the salience of a particular identity is reflective of how committed one is to the
relationships commanding that particular identity (Stryker & Burke, 2000). Together
commitment and identity salience impact role-choice behavior (Stryker, 2007). Through the
development of these specific concepts, identity theorists translated Mead’s (1934)
framework into a more pointed statement: “commitment shapes identity salience shapes role
choice behavior” (Stryker & Burke, 2000). The main thrust of identity theory is that the
behavioral choices of an individual indicate where identities are located in their hierarchy.
Additionally, as people perform behaviors associated with their identities, they may have a
particular identity reinforced or validated through social interaction with persons important to
the individual. Research has supported this proposition (Callero, 1985; Adler & Adler, 1991;

Nuttbrock and Freudinger (1991) tested some of the interactions proposed by identity
theory in their study examining identity salience and motherhood. They found that a highly
salient mothering identity was significantly associated with certain role-related behaviors
such as making sacrifices for their children ($r = .18$) and accepting mothering burdens ($r =
.14$). Results showed that the salience of the mothering identity is a predictor of whether the
mother made personal sacrifices for her children and whether she accepted the burden of
raising the child without assistance from others. However, it is important to note that these
particular associations, although statistically significant, were weak, though strengthened by
including role praise, role gratification, and role strain in the analysis.
Callero (1985) investigated role identity salience among adult blood donors. He found support for his claim that salience of the blood donor role identity would be positively associated with self-definition as a blood donor \((r = .37, p < .001)\). Callero’s (1985) findings also supported the idea that identity and behavior are related to one another as the salience of blood donor role identity was positively associated with the number of future blood donations \((r = .20, p < .001)\). Salience of blood donor role-identity was the strongest predictor of prior blood donations as well as a significant predictor of future blood donations. This study provides further evidence that salient role identities are possible predictors of behavior.

Anderson et al. (2001) investigated age norms on exercise identity among samples of college students, state law enforcement officers, and employees of a large financial services corporation. The authors conducted a simultaneous regression analysis and found that three measures of exercise behavior (number of weeks of exercise, minutes per week of exercise, and level of perceived exertion) were significantly associated with exercise identity in the college students \((R^2 = .28)\), law enforcement officers \((R^2 = .49)\), and the financial corporation employees \((R^2 = .27)\). These findings show support for the proposed link between behaviors associated with the role identity of exerciser, and the subsequent salience of particular identities. This study is especially important because it shows similar results across three fairly distinct samples of participants.

Through participant observation with a highly competitive NCAA Division I men’s college basketball team, Adler and Adler (1991) also found support for the idea that social interaction serves to validate or reject particular identities. By studying the team over a four year period, the researchers were able to gather information from student-athletes as they
assimilated into the life of a college athlete and progressed through their college career. This longitudinal approach revealed that student-athletes felt that they were able to develop and meet expectations for a variety of identities during high school years. When they came to college, the student-athletes quickly realized that maintaining this balance was not as easily attained, and began to re-organize their identity hierarchy. Student-athletes spent the most time and grew closest with those individuals associated with their athletic role. Because of this, their identity as an athlete was more highly validated and reinforced than either their academic or social roles. This reinforcement eventually led to the athletic role encroaching into the classroom and social realms resulting in behavioral changes among the student-athletes. Less time was spent in school-related behaviors and social interactions were largely centered around the student-athletes’ notoriety as basketball players. The social validation and reinforcement of the basketball players’ role as athlete eventually led to a restructuring of their identity hierarchies.

These empirical studies demonstrate a link between identity salience and behavior in individuals. Salient identities often surface because of strong social relationships that tend to affect the importance an individual places on a particular identity. These studies also show that the salience of a particular identity may predict past and future behaviors, while at the same time, socially validated behaviors increase the sense of a particular identity among individuals.

However, as Goffman (1959) discussed, it is important to note that behaviors associated with a particular identity may not be appropriate in every social situation. For example, a college athlete signing autographs during a course lecture would not be looked highly upon by the instructor. During situations where role-related behaviors are mis-
matched with the social context, role overload and role conflict may arise. Role overload occurs when one fulfills multiple roles at once and is defined as “having too many role demands and too little time to fill them” (Coverman, 1989, p. 967). On the other hand, role conflict refers to the degree to which the expectations within one role are incompatible with the expectations of another role (Kopelman, Greenhaus, & Connolly, 1983). These issues have been widely studied, especially among men and women who balance a career and family. Coverman (1989) used information for married men and women from a large scale study of quality of employment to investigate the potential psychophysical distress associated with role overload and role conflict. The study suggests that role conflict among working parents who are married may lead to increased psychophysical symptoms of distress.

Similarly, researchers have investigated role conflict in other populations, such as college athletes. In a study of 12 collegiate male athletes and 12 male non-athletes, in-depth interviews revealed that most athletes felt that the demands of their athletic role compelled them to refrain from exploring other possible interests throughout their college careers (Stein and Hoffman, 1978). The student-athletes in the sample expressed that they experienced difficulty fulfilling all of their role obligations such as athlete, friend, and student, resulting in inter role conflict.

In another study, Lance (2004) investigated gender difference in role conflict of university student-athletes. From these data he concluded that over 55% of the student-athletes surveyed agreed that it was difficult to meet both athletic and academic expectations. Another significant finding was that female athletes scored higher on the role conflict index than male athletes (Yule’s Q = .24, p < .05). It was suggested that females experience more strain because the behavioral expectations associated with fulfilling the stereotypical role of
female are in direct conflict with the behavioral expectations for a competitive athlete. It is possible that this imbalance may lead to females identifying less with their athletic role, as they are under more pressure than men to demonstrate a balance between their expected gender and athletic behaviors. Interestingly, the difference between male and female respondents deviated from the overall findings in one specific circumstance. More males (36%) in a high revenue producing sport (basketball) were classified as experiencing a high level of role conflict than females (20%) in a similar, but non-revenue producing sport (basketball). This suggests that competition within a more commercialized market may result in student-athletes feeling more compelled to engage in expected behaviors for their athletic role and that the expected athlete-related behaviors may be incongruent with the expectations for other roles such as student, friend, or significant other.

**Identity Foreclosure**

In order to resolve role conflict, student-athletes face a significant decision about the path for their college career, academically, socially, and athletically. Though many athletes would enjoy being able to successfully fulfill the three roles completely, this is often very difficult given the demands placed upon them by athletic scholarships and performance expectations. Because of this, student-athletes may enter into a state of identity foreclosure. This term refers to the closing off of any further role identity exploration in an individual and is typically done to avoid any crisis associated with role conflict (Erikson, 1956; Marcia, 1966). When one experiences identity foreclosure he or she typically settles into the identity which is most salient at that particular time and ceases to allow one to view him- or herself in any other way. Instead of a hierarchy composed of multiple identities, foreclosed individuals
let one identity become so salient that the others cease to exist at all in the hierarchy or have very little importance. When this happens, the individual is said to have foreclosed on their identity.

According to Petitpas (1978), identity foreclosure was seen early on with adolescent youth. These individuals conformed to secure positions within a family business and “avoided an identity crisis and gained a sense of safety and security but have done so at the expense of their personal freedom and opportunities for growth and creativity” (p. 558). Interestingly, Trent and Medsker (1968) found that a majority of high school graduates had foreclosed on their identity, attributing most of their major decision-making to family influence and external forces, not self-exploration. It has been suggested that foreclosing on one’s identity could be problematic because of its impact on future life satisfaction and ones ability to set realistic life goals (Marcia, 1967; Petitpas, 1978). Marcia (1967) found that men who had foreclosed on their identity set unrealistic personal goals and tended to answer questions about themselves in socially acceptable ways, using self-presentation in their responses. Likewise, another study by Toder & Marcia (1973) showed that foreclosed women tended to respond in socially acceptable ways, but also that they felt that they were under social pressure to exhibit a stable identity. It was also found that women perceived their identity as extremely connected with the roles of wife and mother (Toder & Marcia, 1973). However, some of these findings may be dated given the advancement of women in the workplace since the publication of the studies.
Athletic Identity and Career Maturity

By using the concepts of identity hierarchies, salience, and foreclosure, it is possible that a better understanding of the identity structures and commitments of student-athletes can be reached. Some sport scholars have suggested that a highly salient athletic identity may produce expected behaviors that limit the student-athlete from fully exploring alternative roles, thus resulting in identity foreclosure. Athletes participating at the collegiate level face pressure from coaches, parents, peers, and sometimes universities to physically produce desired outcomes on the field, court, rink, and pool, regardless of consequences. It has been suggested that in order to meet these demands, student-athletes sacrifice exploring and excelling in other areas of their lives (Stein & Hoffman, 1978, Lance, 2004). In light of the research that suggests that student-athletes competing at the college level may be susceptible to experiencing high levels of role conflict which may lead to identity foreclosure, some researchers began to investigate how this process, as well as the development of athletic identity, contributes to educational and career planning among intercollegiate student-athletes.

Brewer, Van Raalte, and Linder (1993) defined athletic identity as “the degree to which an individual identifies with the athlete role” (p.237). Many researchers have undertaken the task of investigating athletic identity and attempting to understand its relationship to other role identities of student-athletes (Brewer, et. al, 1993; Griffith & Johnson, 2002; Miller & Kerr, 2003; Lally & Kerr, 2005; Mignano, Brewer, Winter, and Van Raalte, 2006). One of the most widely used instruments to assess athletic identity was developed by Brewer and colleagues (1993). The purpose of the Athletic Identity Measurement Scale (AIMS) is to reflect “both strength and exclusivity of identification with
the athlete role” (Brewer et al., 1993). Since its development, it has been used and cited repeatedly throughout the literature, more than any other athletic identity instrument in circulation.

In a search of the literature, five studies were found that examined the relationship between athletic identity and career maturity among NCAA Division I student-athletes, with some studies also investigating the level of identity foreclosure. As already indicated, some research suggests that intercollegiate student-athletes are presented with circumstances that require them to attempt to fulfill at least two roles that both require a high level of time and commitment: student and athlete. It has been suggested that high commitment to the role of athlete may circumvent the exploration of other role identities, which places student-athletes at a greater risk of foreclosing their identity exploration and development to only the role of athlete (Murphy, Petitpas, & Brewer, 1996). These researchers found that 65% of the sample of 124 NCAA Division I male and female intercollegiate student-athletes scored below the 25th percentile on the Career Maturity Inventory (CMI; Crites, 1978) when compared to high school seniors. This suggests that the student-athletes were possibly delayed or impaired in their career development. Additionally, Pearson product moment correlations revealed that identity foreclosure ($r = -.36, p < .005$) and athletic identity ($r = -.31, p < .005$) were both inversely related to career maturity. However, identity foreclosure and athletic identity were not significantly correlated with each other ($r = .11, p > .05$). Results also demonstrated that women ($\bar{x} = 36.04, SD = 4.87$) in the sample had significantly higher career maturity scores than men ($\bar{x} = 31.24, SD = 7.61$), (ES = .68). Interestingly, men and women did not differ significantly on identity foreclosure and athletic identity scores. Additionally, student-athletes participating in revenue-producing sports (basketball, football, and ice hockey)
showed higher scores on identity foreclosure ($\bar{x} = 16.37, \text{SD} = 5.13$) than those athletes participating in non-revenue-producing sports ($\bar{x} = 13.07, \text{SD} = 4.26$), and lower scores on career maturity ($\bar{x} = 29.90, \text{SD} = 7.39$) than athletes in non-revenue-producing sports ($\bar{x} = 33.14, \text{SD} = 7.58$). Though this study provides data that suggest both athletic identity and identity foreclosure have inverse relationships with career maturity, it must be noted that nearly 40% of their sample was made up of football players, which could significantly increase the strength of that relationship for this sample of student-athletes.

Results in other studies also indicate that student-athletes scored lower on indices of career preparation or maturity when compared to non-athlete counterparts (Kennedy & Dimick, 1987; Sowa & Gressard, 1983). Kennedy and Dimick (1987) investigated 122 NCAA Division I male scholarship athletes in revenue-producing sports, namely football and basketball. They assessed maturity of career attitudes using the CMI and found that student-athletes scored significantly lower ($\bar{x} = 33.15$) than the comparison non student-athlete group ($\bar{x} = 36.84$). Unfortunately, standard deviations or effect sizes were not reported, so it is difficult to interpret the meaningfulness of this difference. Researchers also asked participants to respond to a question regarding the level of football/basketball they expected to play after college. Results showed that 48% of the student-athletes expected to participate in professional sports after college. At the time, it was expected that about 2% of college athletes would continue on to play at the professional level. Overall, these findings indicate that student-athletes in revenue producing sports may lag behind in career maturity compared to non-athlete students, and many seem to have unrealistic career expectations about playing professional sports.
In a similar study, Sowa and Gressard (1983) randomly selected 75 male and female varsity athletes and non-athletes at a NCAA Division I institution and evaluated their career and educational plans using the Student Developmental Task Inventory (SDTI; Winston, Miller, & Prince, 1979). Results showed that the mean scores for student-athletes on educational plans ($\bar{x} = 9.22$, SD = 3.11) and career plans ($\bar{x} = 8.48$, SD = 3.27) were significantly lower than mean scores for non-athletes on educational plans ($\bar{x} = 10.40$, SD = 2.07) and career maturity ($\bar{x} = 9.96$, SD = 3.60). Researchers found no significant differences between males and females for scores on any developmental subscale in the SDTI. These results contradict the findings of Murphy et al. (1996) failing to expose gender differences in career maturity, but do support findings of the possibility of lower levels of career maturity in student-athletes. Interestingly, the concept of athletic identity was not assessed in this study.

Although previous research indicates that student-athletes may be less career mature than non-athletes and that female athletes may be more career mature than male athletes, other research has indicated that no relationship exists between level of identification to the athlete role and levels of career maturity. Smallman and Sowa (1996) studied the impact of race and type of sport played on career maturity in 125 male varsity athletes enrolled in an NCAA Division I university using the Career Development Inventory (CDI; Thompson, Lindeman, Super, Jordaan, & Myers, 1981). This instrument assesses individual attitudes, knowledge, and skills related to vocational decision making. Race was split into two groups where one group was made up of minorities including African Americans, Asian Americans, Hispanic Americans, Native Americans, and other, while the second group was made up of student-athletes identifying as White. Type of sport was divided into the categories of
revenue-producing sport comprised of football and basketball, and non-revenue producing sport consisting of wrestling, track, tennis, swimming, lacrosse, soccer, and baseball. Although no means or standard deviations were reported, the researchers claimed that neither race nor type of sport indicated a significant difference in levels of career maturity, suggesting that student-athletes in non-revenue producing sports were not different from those in revenue-producing sports. Unfortunately, athletic identity was not measured; therefore, any differences resulting from varying levels of athletic identity could not be determined. However, the study did indicate that student-athletes’ scores on the CDI consistently fell at or below the twenty-fifth percentile norms, landing them significantly lower than expected for their age and level in school. This is an important finding as it suggests that student-athletes may not be as career mature as non-athletes.

More recently, Martens and Cox (2000) investigated male and female athletes and non-athletes at a NCAA Division I institution. Using My Vocational Situation (MVS; Holland, Daiger, & Power, 1980), the researchers found that student-athletes scored significantly lower on career development measures than non-athletes; however, the percent variance accounted for was quite low (4%). Results also indicated that athletic identity and sports commitment were not associated with career development, which does not align with the relationship trends between athletic identity and career maturity suggested by Murphy et al. (1996).

In the five studies discussed that exclusively examined NCAA Division I student-athletes, four of the studies provided evidence that suggests that intercollegiate student-athletes may not demonstrate a level of career maturity which is appropriate for their point in the educational system. Murphy et al. (1996) found that identity foreclosure and athletic
identity were inversely related to career maturity; however, Martens and Cox’s (2000) findings did not align with this relationship. Though athletic identity and identity foreclosure were not measured by Kennedy and Dimick (1987), Sowa and Gressard (1983), and Smallman and Sowa (1996), their studies suggest that student-athletes competing at the NCAA Division I level were less career mature than non-athletes.

Although research among NCAA Division I athletes suggests that student-athletes may be less career mature than expected for their age and educational status, studies involving athletes who do not participate at the NCAA Division I level suggest that this may not always be the case. Blann (1985) compared maturity of career and educational planning in 203 male and female NCAA Division I and Division III student-athletes and 218 non-athletes. Career maturity was assessed using a subscale of the Student Developmental Task Inventory, Task 2 Developing Purpose (Winston, Miller, & Prince, 1979). Results indicated that NCAA Division III male ($\bar{x} = 9.80, SD = 3.22$) student-athletes at the junior and senior displayed a higher level of career maturity than NCAA Division I male ($\bar{x} = 9.21, SD = 3.35$) junior and senior student-athletes, though the effect size was small (ES = .18). Non-athlete junior and senior males ($\bar{x} = 10.11, SD = 3.77$) demonstrated the higher levels of career maturity than both NCAA Division I and NCAA Division III junior and senior student-athletes. Similar results were found for male student-athletes at the freshman and sophomore level, though the differences in means were larger. Significant differences in career maturity did not emerge among female student-athletes by age level or by level of participation. All groups displayed similar trends for educational plans. These results suggest that student-athletes participating at the collegiate level may experience delayed development of career maturity compared with non-athletes of the same age, with males being at the highest risk.
Although, student-athletes competing at the NCAA Division III level appear to have a lower risk for career maturity impairment than those at the NCAA Division I level. Unfortunately, this study did not assess the association of athletic identity on career maturity.

Similar to the work by Blann (1985), Miller and Kerr (2003) investigated role experimentation in collegiate student-athletes attending a Canadian university that was comparable to an NCAA Division II institution. In-depth interviews with eight student-athletes revealed that these student-athletes focus their role experimentation to three primary areas: athletic, academic, and social. The responses indicated that during their time at college, student-athletes moved through a two-stage model of identity formation. During the first stage, which consists of an early and mid period during the first two years of school, student-athletes were found to over-identify with the athlete role, committing more time and energy to that role at the expense of the academic and social roles. The first stage was also highlighted by an intense assimilation into the intercollegiate athletic sub-culture through interactions with older teammates. A difficulty was also noted for social assimilation outside of athletics due to large class sizes and a lack of understanding from non-athlete roommates and peers. In the second stage, which consists of the late period that emerges over the last two years of school, responses indicated that student-athletes shift their center of attention from primarily the athletic area to the academic sphere. It was suggested that this was due to academics becoming more important at that point in the college career and a realization by the student-athletes that they were not likely to compete beyond college. In the second stage, social role restriction remained due to sacrifices made for school, rather than athletics, as was characterized in the first stage. The finding that athletes experience an intense assimilation into the athlete role echoes the conclusions drawn by Adler and Adler (1987; 1991) in their
qualitative work discussed earlier, though differ in the finding that student-athletes begin re-
focusing their attention to school and career development toward the end of their college 
career. This could be due to the fact that the Canadian athletes interviewed may not expect to 
play their sport professionally to as great an extent as the basketball players in the study by 

In another study, Griffith and Johnson (2002) examined the differences between 234 
student-athletes at NCAA Division I and Division III institutions by investigating the 
relationship between athletic identity and life roles of student-athletes participating on 
collegiate track and field teams. These data showed that NCAA Division III student-athletes 
reported significantly higher levels of athletic identity ($\bar{x} = 61.93$, $SD = 1.28$) than student-
athletes participating at the NCAA Division I level ($\bar{x} = 57.87$, $SD = 1.35$) with a strong 
effect size ($ES = 3.00$). Results also showed that student-athletes with high athletic identity 
ranked the athletic life role significantly higher ($\bar{x} = 3.23$, $SD = .17$) than those with lower 
athletic identity ($\bar{x} = 2.56$, $SD = .16$) with a strong effect size ($ES = 3.94$). In addition, results 
showed that NCAA Division III athletes, despite reporting higher athletic identity, showed 
significantly higher levels of scholastic importance ($\bar{x} = 6.45$, $SD = .18$) when compared to 
NCAA Division I student-athletes ($\bar{x} = 4.73$, $SD = .20$) with a strong effect size ($ES = 8.60$). 
Although these findings provide unexpected and interesting information about differences 
between NCAA Division I and Division III student-athletes, it must also be taken into 
isideration that the caliber of the track and field program at the NCAA Division III 
stitution was competitively comparable to many NCAA Division I programs. In addition, 
the data were collected at different points in the season for each team, with the NCAA 
Division III student-athletes being surveyed prior to the NCAA Division III National
Championship meet at the end of their season and the NCAA Division I team being surveyed during their off-season training. This could have created marked differences in the levels of athletic identity reported at the time of the survey. In sum, this study showed that it may be possible for student-athletes competing at a high level to simultaneously identify strongly with both athletic and academic roles, though this may be affected by the scholastic and athletic environments.

In a study comparing 114 NCAA Division I and NCAA Division II male football and basketball players, Brown and Hartley (1998) found that level of athletic identity did not significantly affect any of the five career maturity subscales on the CDI. Athletic identity was also not significantly affected by level of competition. Additional findings revealed that 19% of the student-athletes indicated professional athlete as their preferred occupational choice, and that this group scored significantly lower on three of the five subscales of the CDI. Unfortunately, means and standard deviations were not reported so effect sizes could not be calculated. It is important to note that two revenue-producing sports were the only sports included in this study. Though the study proposes that differences may not exist among athletic identity and career maturity between the two divisions, it is more likely that this study provides evidence that suggests that student-athletes in revenue-producing sports display similar levels of athletic identity and career maturity, despite the level of competition.

Other research has investigated the relationship between athletic identity and student involvement among female athletes participating at both coeducational and women’s-only NCAA Division III colleges (Mignano et al., 2006). Researchers found that the AIMS scores for senior student-athletes who were attending women’s colleges were significantly higher ($\bar{x} = 41.79, \text{SD} = 5.19$) than women attending coeducational colleges ($\bar{x} = 35.19, \text{SD} =$...
6.68). However, they did not find significant differences between levels of student involvement and athletic identity \((r = -0.04, p < .05)\). Additionally, student-athletes at women’s-only colleges placed a higher amount of emphasis on academics \((\bar{x} = 6.83, SD = .44)\) than women at coeducational colleges \((\bar{x} = 6.44, SD = .71)\) with a moderate effect size \((ES = .55)\). The opposite was true where athletics was concerned as student-athletes at women’s-only colleges placed a lower amount of emphasis on athletics \((\bar{x} = 3.90, SD = 1.29)\) than student-athletes at coeducational colleges \((\bar{x} = 4.87, SD = 1.29)\) with a large effect size \((ES = .75)\). Results suggest that women’s-only colleges may provide an environment where female student-athletes are supported in the exploration of several different roles, which allows them to identify highly with the athletic role while at the same time placing a great amount of emphasis on academics and student involvement. However, this research must be understood in the context of the environment fostered by the NCAA Division III philosophy.

Findings of the five studies that investigated collegiate student-athletes that do not participate at the NCAA Division I level, were not as homogenous as the findings of studies investigating exclusively NCAA Division I student-athletes. Blann (1985) suggested that male student-athletes participating at the collegiate level may experience a higher degree of impaired progress toward career maturity when compared with female-athletes and non-athletes. While these results support the general trend suggested by Murphy et al. (1996), the findings of Griffith and Johnson (2002) and Brown and Hartley (1998) suggest that either no differences exist between varying levels of competition or that it is possible for student-athletes to demonstrate high levels of career maturity and athletic identity. Miller and Kerr’s (2003) qualitative work suggests that student-athletes initially prohibit role exploration
beyond the role of athlete, but later expand their exploration as they near the end of college. Mignano et al. (2006) found that female student-athletes at women’s only colleges may experience greater freedom to explore academic and athletic roles than female student-athletes at coeducational colleges. Clearly, these results indicate that the relationship between athletic identity, identity foreclosure, and career maturity among collegiate athletes may not be as clear cut as suggested by research with NCAA Division I student-athletes only.

Because of these conflicting findings, it is not possible to draw accurate conclusions about the relationships between career maturity, athletic identity, and identity foreclosure among intercollegiate student-athletes. Additionally, previous research in this area has been affected by serious limitations due to study design. Though fairly clear conclusions about these relationships were drawn for NCAA Division I student-athletes, this information fails to recognize that the majority of student-athletes participating on the collegiate level do not participate in this elite division (NCAA, 2008b). Because of fundamental differences between the philosophies of the three divisions in the NCAA, it is likely that the athletes participating in the various levels are presented with a different set of circumstances as they navigate their lives as intercollegiate student-athletes (NCAA, 2008b). It is possible that, because of the NCAA Division III emphasis on a well-rounded college experience with athletics serving as only one part, Division III student-athletes develop more open identity structures and thus may experience thus a higher level of career maturity. More research among student-athletes participating in varying levels of competition is needed so that a clearer understanding of student-athlete identity formation and its relation to career maturity can be reached.
CHAPTER 3: METHODS

Participants

Questionnaire data were collected from 367 male and female student-athletes from colleges in a nationally competitive NCAA Division III athletic conference in the Midwest. Administrators at nine institutions were invited to allow student-athletes at their institution to participate in the study. Six of the college administrators expressed interest in participating, and athletes from four of those schools successfully completed the study protocol. Ninety-one percent of the respondents identified as Caucasian and 67.7% declared their home state to be Iowa. Most respondents attended public high schools (93.2%) located in rural (43%), suburban (28.5%), or urban (28.2%) areas. Respondents’ age ranged from 18 to 23 years with a mean of 19.96 years, and 55% were male. Thirty-eight percent of respondents were freshman, while sophomores, juniors, seniors, and fifth year seniors comprised 26.8%, 21.1%, 13.2%, and .8% of the sample, respectively.

Respondents were fairly evenly split by sport. Men’s basketball (19.1%), men’s track and field (16.3%), women’s basketball (14.4%), women’s cross country (12.0%), women’s track and field (11.7%), men’s cross country (11.7%), men’s soccer (8.4%), and women’s soccer (6.3%), were all included in the investigation. These teams were chosen because teams for each of these sports were fielded at every school in the sample and had both a male or female team. Men’s football, men’s wrestling, and women’s volleyball were also fielded by every school, but were omitted from consideration because there were not comparable sports fielded for athletes of the opposite sex. Baseball, softball, men’s and women’s golf,
and men’s and women’s tennis were omitted from sampling in order to maintain a manageable sample and to keep the number of co-acting and interacting teams equal.

Instrumentation

The Attitude Scale of the Career Maturity Inventory (CMI; Crites, 1978) was used to measure career maturity in the student-athletes. This was designed to assess aspects of the career decision-making process such as decisiveness, involvement, independence, and compromise. It is made up of 50 items and respondents answered in an agree/disagree format. The responses were scored using the answer key (Crites, 1978). A total raw score is determined from a total of all correct keyed responses with a minimum score of zero and a maximum score of 50. This score can be compared to established percentile ranks located in the CMI Administration and Use Manual (Crites, 1978). The manual provides information for instrument stability \((r = .71 \text{ over a 1-year period})\) and internal consistency (K-R 20 coefficient = .74) (Crites, 1978). Although this instrument was developed for assessing high school students, it has been shown to be appropriate for use with college students (Crites, 1978).

The second instrument used was the Athletic Identity Measurement Scale (AIMS). Developed by Brewer, Van Raalte, & Linder (1993), the AIMS is made up of 10 items that are designed to assess the strength of athletic identity. Brewer et al. (1993) defined athletic identity as the degree to which an individual identifies with an athletic role. These 10 items are scored on a 7-point Likert-type scale with response options ranging from (1) strongly disagree to (7) strongly agree. A composite score was calculated for each respondent which consisted of the sum of the responses to the 10 questionnaire items. Brewer et al. (1993)
demonstrated evidence of construct validity for this instrument, finding that AIMS scores among college students enrolled in a psychology course at a large Southwestern university were highly correlated with scores on the importance of sports competence scale of the Perceived Importance Profile (PIP), \((r = .83, p < .0005)\). Brewer and colleagues (1993) also found high internal consistency with an alpha coefficient of .93, as well as a test-retest reliability coefficient of .83 over a two-week period. Murphy et al. (1996) also demonstrated internal consistency with the scale with Cronbach’s alpha coefficients ranging from .80-.93. Data in the present study also displayed an acceptable level of internal consistency for the AIMS with a Cronbach’s alpha coefficient of .79 with item to total correlations that ranged from .33 to .63. By Nunnaly’s (1978) criteria, an alpha coefficient of .70 or greater demonstrates an acceptable level of internal consistency.

Though widely used, recent evidence has suggested that the AIMS may not sufficiently evaluate the multi-dimensional aspects of athletic identity such as public and private aspects, because it may focus more on private athletic identity (Nasco & Webb, 2006). Private athletic identity is “the degree to which a person describes her- or himself as an athlete owing to internalization of the athlete role” (Nasco & Webb, 2006, p. 438). In contrast, public athletic identity is “the degree to which a person describes her- or himself as an athlete due to the external rewards associated with being an athlete” (Nasco & Webb, 2006, p. 438). Because of these recent findings, the present study utilized a second measure of athletic identity. The Public-Private Athletic Identity Scale (PPAIS; Nasco & Webb, 2006) is a 10-item instrument created to explore both the public and private dimensions of athletic identity. The public \((r = .40, p < .001)\) and private \((r = .61, p < .001)\) subscales of the PPAIS were previously found to be significantly correlated with the AIMS scores (Nasco & Webb,
The results of Nasco and Webb (2006) suggest that the two instruments may, in fact, measure similar constructs, and additionally, show that the AIMS may be more heavily weighted with items that evaluate the private dimension of athletic identity. The PPAIS was also shown to improve prediction of the years that respondents participated in athletics and weekly athletic activity by 2.2% over the AIMS ($R^2 = .41$) (Nasco & Webb, 2006). Finally, reliability for the PPAIS was shown for both the public (Cronbach’s Alpha = .74) and private (Cronbach’s Alpha = .75) subscales (Nasco & Webb, 2006). In the present study, the PPAIS as a whole yielded a Cronbach’s alpha coefficient of .67 with item to total correlations ranging from .21 to .48. The Cronbach’s alpha coefficients for the public and private subscales were .65 and .70 respectively. The item to total correlations for the private subscale ranged from .35 to .53, while item correlations on the public scale ranged from .35 to .47.

Because a sport-specific instrument measuring identity foreclosure has not yet been adequately developed and validated, the present study assessed the level of identity foreclosure for the student-athletes using the foreclosure subscale of the Objective Measure of Ego-Identity Status (OM-EIS; Adams, Shea, & Fitch, 1979). This decision is supported by Murphy and colleagues’ (1996) previous utilization of this instrument in a similar study investigating identity foreclosure, athletic identity, and career maturity in men and women participating in intercollegiate athletics at the NCAA Division I level. The OM-EIS is made up of 24 items. However, the foreclosure subscale consists of only 6 items using a 6-point Likert-type scale that ranges from (1) strongly disagree to (6) strongly agree. Evidence of internal consistency (Cronbach’s Alpha = .76) was provided by Adams and colleagues (1979) for the foreclosure subscale. The present study showed evidence of internal
consistency in the subscale with a Cronbach’s alpha of .74 and item to total correlations ranging from .28 to .60.

Finally, to gain a clear picture of the participants’ background, a short demographic questionnaire was included where respondents indicated age, gender, race, grade level, sport of participation, academic major, home state, type of high school attended (public, private, or other), location of high school (urban, suburban, rural, other), number of students in high school graduating class, and age at which participation in organized sport began.

Procedure

Permission was obtained from all of the participating colleges and universities. The first step in this process was contacting the athletic directors at each institution. Through this first contact the athletic directors were sent a letter that informed them of the basic tenets of the study and were asked whether or not they would be interested in having the student-athletes at their school participate in the study. If administrators did not respond to the original letter after two weeks, a follow-up email was sent. If the email did not provoke a response, one phone call was made to the administrator. If no contact was initiated by the administrator after the phone call, they were not contacted again. In some cases, the athletic directors took charge and set up dates and times for student-athletes to have the survey administered to them. In other cases, the athletic directors preferred that coaches be contacted individually in order to set up meeting times. Once these meetings were scheduled, the researcher personally traveled to each institution to administer the survey. Student-athletes were provided a letter that explained that their participation was completely voluntary and
reminded them that their responses would be anonymous and kept confidential. Student-
athletes were also verbally informed of the content of the letter.

Upon receipt of all completed questionnaires the responses were entered into the
SPSS statistical analysis system version 15.0 to be analyzed. All procedures were approved
by the Iowa State University Institutional Review Board for the use of human subjects.
CHAPTER 4: RESULTS

Means and standard deviations were calculated for scores on the AIMS, PPAIS (private, public, and total), OM-EIS Foreclosure Subscale, and CMI (Table 1). Scores on the CMI ranged from 20 to 42 out of a possible 50. Participants’ mean and median scores were both about 33 which puts them at the 34th percentile when compared to the 12-grade student norms on the CMI Attitude scale (Crites, 1978). Interestingly, only 6% of the sample scored above the 76th percentile. This suggests that many student-athletes in the present study may be less career mature than a large portion of typical high school seniors.

In the present sample, athletic identity was measured using both the AIMS and the PPAIS. The mean and median scores for the AIMS were 46.33 and 47.00, respectively, out of a possible 70. The PPAIS yielded a total mean score of 31.73 and median of 32.00 out of a possible 50. Respondents displayed a mean of 11.43 and median of 11.00 out of a possible 25 on the Public subscale of the PPAIS, while the Private subscale showed a mean of 20.31 and median of 21.00 out of a possible 25. These means suggest that the private aspect of athletic identity seems stronger than the public aspect in this group of student-athletes. Identity foreclosure, measured by the Foreclosure subscale on the OM-EIS, produced a mean score of 15.61 and a median of 16.00 out of a possible 36. The small differences between means and medians for the AIMS, PPAIS total, PPAIS Private subscale, PPAIS Public subscale, and the Foreclosure subscale on the OM-EIS suggest that the distributions for all of these variables are relatively normal, with the possibility of slight positive skewness for public athletic identity and negative skewness for private athletic identity.

Pearson product moment correlations revealed a number of statistically significant relationships among the six variables. Identity foreclosure \((r = -.13, p < .05)\) and
Table 1. Descriptive statistics and bivariate correlations between AIMS, FS, PPAIS Private, PPAIS Public, PPAIS Total, and CMI.

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>AIMS</th>
<th>Foreclosure Subscale</th>
<th>PPAIS Private</th>
<th>PPAIS Public</th>
<th>PPAIS Total</th>
<th>CMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIMS</td>
<td>46.33</td>
<td>8.33</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreclosure Subscale</td>
<td>15.61</td>
<td>5.63</td>
<td>.091</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPAIS Private</td>
<td>20.31</td>
<td>3.03</td>
<td>.616**</td>
<td></td>
<td>.050</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPAIS Public</td>
<td>11.43</td>
<td>3.33</td>
<td>.278**</td>
<td></td>
<td>.320**</td>
<td>.165**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPAIS Total</td>
<td>31.73</td>
<td>4.86</td>
<td>.575**</td>
<td></td>
<td>.251**</td>
<td>.736**</td>
<td>.789**</td>
<td></td>
</tr>
<tr>
<td>CMI</td>
<td>33.09</td>
<td>4.71</td>
<td>-.148**</td>
<td>-.126*</td>
<td>-.158**</td>
<td>-.336**</td>
<td>-.329**</td>
<td></td>
</tr>
</tbody>
</table>

**Correlation is significant at the .01 level (2-tailed).
*Correlation is significant at the .05 level (2-tailed).

athletic identity \( r = -.15, p < .01 \) were both inversely related to career maturity. Though both correlations were significant and in the predicted direction, neither carry much statistical meaningfulness as the variance explained is less than 2% for both. Career maturity was also inversely related to both public athletic identity \( r = -.34, p < .01 \), private athletic identity \( r = -.16, p < .01 \), and thus, PPAIS total \( r = -.33, p < .01 \). Among the NCAA Division III athletes studied, only a modest relationship exists between the two independent variables identity foreclosure and athletic identity, and the dependent variable career maturity, as little variance in the dependent variable was explained by these two independent variables. Public athletic identity appears to be the strongest predictor of career maturity.

A stepwise regression analysis was performed with career maturity as the dependent variable and public athletic identity, private athletic identity, identity foreclosure, and the
AIMS total score as predictor variables. Results indicated that public and private athletic identity were the only two variables that were significantly associated with career maturity ($R^2 = .12$). Public athletic identity entered first and explained 11% of the variance in career maturity. Private athletic identity entered next and made a significant addition of 1%. Identity foreclosure and the AIMS total score did not significantly explain any of the variance in career maturity above and beyond that explained by public and private athletic identity.

Public athletic identity was also significantly correlated with identity foreclosure ($r = .32, p < .01$), while private athletic identity was not. However, the relationship between public and private athletic identity did produce a significant correlation ($r = .17, p < .01$), though the variance explained was less than 3%. These results clearly suggests that two distinct dimensions of athletic identity may well exist. The Private subscale of the PPAIS showed a strong positive correlation with the AIMS ($r = .62, p < .01$), while the Public subscale had a significant but weaker correlation with the AIMS ($r = .28, p < .01$). This suggests that the AIMS may provide a measure more heavily weighted with items related to private athletic identity than public athletic identity.

Table 2. Stepwise regression effects on Career Maturity.

<table>
<thead>
<tr>
<th>Variable</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p &lt;$</th>
<th>$R^2$ increment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Athletic Identity</td>
<td>-.45</td>
<td>-6.33</td>
<td>.01</td>
<td>.11</td>
</tr>
<tr>
<td>Private Athletic Identity</td>
<td>-.17</td>
<td>-2.18</td>
<td>.05</td>
<td>.01</td>
</tr>
<tr>
<td>AIMS</td>
<td>.00</td>
<td>.02</td>
<td>-</td>
<td>.00</td>
</tr>
<tr>
<td>Identity Foreclosure</td>
<td>-.03</td>
<td>-.475</td>
<td>-</td>
<td>.00</td>
</tr>
<tr>
<td>(Constant)</td>
<td>41.62</td>
<td>24.996</td>
<td>.01</td>
<td></td>
</tr>
</tbody>
</table>

$F(2,360) = 25.41, p < .000$
A MANOVA was performed to assess the effects of gender and specific sport on athletic identity, identity foreclosure, and career maturity. There was no significant main effect found for gender and no significant interaction between sport and gender. There was a significant main effect for specific sport, Wilks’ $\lambda = .88$, $F(10, 706) = 4.59$, $p < .01$ on the six dependent variables, though the association was small ($\eta^2 = .06$). Univariate analyses showed that three of the six dependent variables significantly differed by sport (Table 3). The mean for basketball players displayed a higher level of identity foreclosure than track and field/cross country and soccer student-athletes ($\eta^2 = .09$). The mean for basketball players was also higher for public athletic identity than either track and field/cross country or soccer ($\eta^2 = .02$). Track and field/cross country respondents showed the highest mean for career maturity of the three sports ($\eta^2 = .02$). For career maturity, the mean score for soccer players was similar and slightly higher than the mean score for basketball; however both were lower than the scores for track and field/cross country. Although these univariate results were statistically significant, the variance explained by sport for public athletic identity and career maturity was smaller than identity foreclosure.

Table 3. Means, Standard Deviations, Significance Levels, and Effect Size for Public Athletic Identity, Identity Foreclosure, and Career Maturity by Sport

<table>
<thead>
<tr>
<th></th>
<th>Basketball</th>
<th>Track &amp; Field/Cross Country</th>
<th>Soccer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Identity Foreclosure</td>
<td>17.93</td>
<td>5.48</td>
<td>14.38</td>
</tr>
<tr>
<td>Career Maturity</td>
<td>32.56</td>
<td>4.92</td>
<td>33.73</td>
</tr>
<tr>
<td>Public Athletic Identity</td>
<td>12.01</td>
<td>3.36</td>
<td>11.07</td>
</tr>
</tbody>
</table>
CHAPTER 5: DISCUSSION AND CONCLUSIONS

Discussion

The purpose of this investigation was to explore the relationships between athletic identity, identity foreclosure, and career maturity among NCAA Division III student-athletes, and to additionally examine the role of public and private athletic identities of these student-athletes. Though previous research with NCAA Division I student-athletes has yielded support for a connection between levels of athletic identity, identity foreclosure, and career maturity, little work among NCAA Division III student-athletes has been done to extend these claims to a wider student-athlete population. The present study revealed that NCAA Division III student-athletes had similar mean scores for athletic identity, identity foreclosure, and career maturity as the sample of NCAA Division I student athletes in Murphy et al. (1996). Findings of the current study suggest that, although identity foreclosure and the AIMS are inversely related to career maturity in NCAA Division III student-athletes, the strength of the relationship does not reach the magnitude of that found by Murphy et al. (1996). The relationships displayed in these data are in the predicted direction (inverse) but explain a smaller percent of the variance in career maturity. An important note to make is that nearly 40% of the sample in the study by Murphy et al. (1996) was comprised of football players whereas football players were not sampled in the present study. Football was not used in this study because sports were chosen only if they had both a male and female team fielded at the schools. Football teams at these institutions were comprised only of male student-athletes and did not field a female team.
The mean score of 33.09 (SD = 4.71) out of a possible 50 on the CMI placed the present sample at the 34th percentile when compared to the 12th grade norms for the instrument (Crites, 1978). Surprisingly, the mean score on the CMI in this study, which didn’t include participants in football, is very similar to the mean CMI score ($\bar{x} = 32.21$, SD = 7.38) reported by Murphy et al. (1996) as well as Kennedy and Dimick (1987) ($\bar{x} = 33.15$), who also included football players in their sample. Additionally, Smallman and Sowa (1996) also included football players in their sample of male NCAA Division I athletes and found that student-athletes consistently scored at or below the 25 percentile norms on their measure of career maturity, the CDI. These comparisons show that the CMI scores for this sample of NCAA Division III student-athletes are similar to the scores reported for student-athletes at several NCAA Division I institutions.

In the present study, the mean score for the AIMS ($\bar{x} = 46.33$, SD = 8.33) was about three points lower than the mean found by Murphy et al. (1996) with NCAA Division I student-athletes ($\bar{x} = 49.56$, SD = 10.18). Though this does not appear to be a substantial difference in means, when examining the standard deviations one can see that the variability in the present sample is much less than found in Murphy et al. (1996). Likewise, identity foreclosure in the present study yielded a similar mean score ($\bar{x} = 15.61$, SD = 5.63) as Murphy et al. (1996) ($\bar{x} = 14.79$, SD = 5.25) but in this case, the standard deviations are much more alike. Despite these similarities, it is important to note that the AIMS and identity foreclosure scores explained only 2% or less of the variance in career maturity scores whereas the findings of Murphy et al. (1996) showed that identity foreclosure scores and AIMS scores explained 13% and 10% of the variance, respectively.
Several explanations exist as to why the CMI scores are relatively equal while the strength of the relationship between the CMI scores and the AIMS and identity foreclosure scores were weaker than found in Murphy et al. (1996). First, it is possible that a slightly lower mean score for the AIMS in the present sample than in the Murphy et al. (1996) study may have decreased the strength of the relationship between the AIMS and the CMI. Additionally, the AIMS and CMI both have greater variability in responses demonstrated by larger standard deviations for both instruments in the Murphy et al. (1996) study when compared to the present study. Finally, despite the mean scores for the AIMS and identity foreclosure being similar to those in the study by Murphy et al. (1996), it is possible that the salience of competing identities Division III student-athletes, such as student, could serve as a moderating effect on AIMS scores. For example, Griffith and Johnson (2002) found that NCAA Division III student-athletes reported high athletic identity scores as well as high scores for scholastic importance.

The present study also investigated separate spheres of athletic identity using the PPAIS, which explores public and private athletic identity. The mean scores for the PPAIS total ($\bar{x} = 32.74$, SD = 5.19), PPAIS Private subscale ($\bar{x} = 20.65$, SD = 3.12), and the PPAIS Public subscale ($\bar{x} = 12.09$, SD = 3.55) among the sample of 112 collegiate, intramural, and recreational athletes studied by Nasco and Webb (2006) were all very similar to the mean scores on the same instruments in the present sample. This indicates that the PPAIS demonstrates consistency across samples and that the instrument worked as it was intended in the present sample. Similar to Nasco and Webb (2006), the data in the present study indicated that the PPAIS total score does correlate highly with the AIMS total score ($r = .74$, $p < .01$). Although Nasco and Webb (2006) did not report the PPAIS total score correlation...
with the AIMS scores in their sample, the correlations between the AIMS and the Private subscale ($r = .61, p < .01$) and Public subscale scores ($r = .40, p < .01$) do show a significant relation between the scores. In the present study, the AIMS scores also showed higher correlations with the Private subscale scores ($r = .62, p < .01$) than with the Public subscale scores ($r = .28, p < .01$) suggesting, as did Nasco and Webb (2006), that the AIMS items may be more reflective of a measure of private athletic identity.

Interestingly, in the results from the present study, career maturity scores were more strongly correlated with public athletic identity subscale scores ($r = -.34, p < .01$) than either private athletic identity subscale scores ($r = -.16, p < .01$), or AIMS scores ($r = -.15, p < .01$). This provides evidence which suggests that, in terms of predicting impaired career maturity, the salience of either domain of one’s athletic identity (public or private) may be an important factor to consider. The larger percent of variance explained in career maturity scores by public athletic identity scores in the present study ($R^2 = .11$) provides a result that more closely aligns with the findings of Murphy et al. (1996) between the AIMS scores and career maturity scores ($R^2 = .10$).

When analyzing the association between gender and specific sport on athletic identity, identity foreclosure, and career maturity, no significant main effect for gender was found. Murphy et al. (1996) did find a significant main effect for gender on career maturity, but not on identity foreclosure or athletic identity. However, of the three sports surveyed, basketball players displayed significantly higher scores for identity foreclosure ($R^2 = .09$) and public athletic identity ($R^2 = .02$) and, along with soccer, lower scores on career maturity ($R^2 = .02$). Although Murphy et al. (1996) found no significant effect of type of sport on athletic identity, their study did show that athletes in revenue-producing sports (football and
basketball) had significantly higher foreclosure scores and significantly lower career maturity scores than athletes in nonrevenue-producing sports. Since very few sports on the NCAA Division III level produce a great deal of revenue for their institutions, the findings of the present study suggest that a student-athlete’s athletic identity, identity foreclosure, and career maturity at the NCAA Division III level may be impacted more strongly due the spectator attendance and attention, rather than the amount of money produced by the sport. The size of the audience and amount of attention given may result in a stronger public athletic identity experienced by student-athletes for some sports. In the present study, student-athletes participating in basketball had the highest level of public athletic identity, and, anecdotally, basketball likely has more spectators and likely receives more media attention than either track and field, cross country, or soccer.

The stepwise regression analysis performed in the present study with career maturity scores as the dependent variable and public athletic identity, private athletic identity, identity foreclosure, and the AIMS total score as the predictor variables, strengthens the findings discussed here. Public athletic identity was the strongest predictor of career maturity and private athletic identity was the only other variable to add a significant amount of variance explained. Thus, the salience of athletic identity (AIMS) was less important in predicting career maturity than was the salience of public or private athletic identity.

Limitations

Several limitations are important to consider when interpreting the findings of this study. First, the sample was largely comprised of student-athletes who identified as Caucasian and considered Iowa their home state. Because of this, it may not be appropriate to
extend the claims of this study to other geographical areas of the United States or to individuals identifying as minorities. Additionally, one must take caution when interpreting the comparison’s made between this study and previous studies with NCAA Division I student-athlete populations as study procedures and the demographic background of the participants may greatly vary. It is especially important to note that many of the NCAA Division I samples included a large portion of football players while the sample in the present study did not. Although football was not included in the present sample to ensure that male and female teams each had an equal counterpart, it may limit the reliability of comparing results between the studies. Finally, the instruments that were used in the present study may not measure the variables of interest as accurately as possible as some of the items on the CMI and Foreclosure Subscales may be dated or irrelevant to students in this day and age. Another limitation of the instruments selected for this study is that they each had varying numerical ranges for likert-type responses. Creating a uniform range of responses for these types of scales across all instruments could improve the comparisons made in the present study. However, in the present study, changes in the scales were not made so that comparisons with previous studies using the original scale ranges could be done.

Conclusions and Future Directions

The present study suggests that the relationship between athletic identity, identity foreclosure, and career maturity may not be as strong as previously suggested in studies of NCAA Division I student-athletes. Although the present data revealed that the direction of the relationships between these three variables is the same as in previous research with NCAA Division I student-athletes, the much weaker relationship shown for NCAA Division
III student-athletes in the present study suggests that there may be differences in the way that student-athletes at NCAA Division I and NCAA Division III institutions negotiate their identity hierarchies. Additionally, the findings of the present study suggest that the public and private aspects of athletic identity may be better predictors of career maturity in intercollegiate athletes rather than a general measure of athletic identity (AIMS).

To examine this potential difference, future research should further explore the public and private dimensions of athletic identity and how these aspects contribute to the overall identity hierarchy of student-athletes. Additionally, the various identities that comprise the identity hierarchies for student-athletes at each of these levels of competition should be further examined. Although the present study did not specifically explore identity hierarchies, findings suggest that its’ structure likely plays an important role in student-athlete development. Researchers should investigate how these hierarchies are negotiated and examine any identities, especially the role of student, that may moderate the strength or salience of athletic identity.
APPENDIX A: IRB APPROVAL

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

DATE: November 11, 2008

TO: Katherine R. Whipple
2430 Aspen Road, Apt. 102, Ames, IA 50010

CC: Dean F. Anderson
207 Forker Bldg.

FROM: Jan Canny, IRB Administrator
Office of Research Assurances

TITLE: Athletic Identity, Identity Foreclosure, and Career Maturity: An Examination of Intercollegiate Student-Athletes

IRB ID: 08-439 Study Review Date: 6 November 2008

The Institutional Review Board (IRB) Chair has reviewed this project and has declared the study exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b). The IRB determination of exemption means that:

- You do not need to submit an application for annual continuing review.

- You must carry out the research as proposed in the IRB application, including obtaining and documenting (signed) informed consent if you have stated in your application that you will do so or if required by the IRB.

- Any modification of this research should be submitted to the IRB on a Continuing Review and/or Modification form, prior to making any changes, to determine if the project still meets the Federal criteria for exemption. If it is determined that exemption is no longer warranted, then an IRB proposal will need to be submitted and approved before proceeding with data collection.

Please be sure to use the documents with the IRB approval stamp in your research.

Please note that you must submit all research involving human participants for review by the IRB. Only the IRB may make the determination of exemption, even if you conduct a study in the future that is exactly like this study.
**ISU EXEMPT STUDY REVIEW**

**SECTION I: GENERAL INFORMATION**

| Principal Investigator (PI): Katherine R. Whipple | Phone: 641-590-3416 | Fax: |
| Degrees: Master of Science | Correspondence Address: 2430 Aspen Rd. Apt. 102, Ames, IA 50010 | |
| Department: Kinesiology | Email Address: katherin@iastate.edu | |
| PI Level: □ Faculty □ Staff □ Postdoctoral □ Graduate Student □ Undergraduate Student | College: Human Sciences | |
| Title of Project: Athletic Identity, Identity Foreclosure, and Career Maturity: An Examination of Intercollegiate Student-Athletes | |
| Project Period (Include Start and End Date): [mm/dd/yy][10/27/2008] to [mm/dd/yy][12/31/2009] | |

**FOR STUDENT PROJECTS**

| Name of Major Professor/Supervising Faculty: Dean F. Anderson | Signature of Major Professor/Supervising Faculty: Dean F. Anderson |
| Phone: 515-294-3427 | Campus Address: 207 Foraker Building, ISU |
| Department: Kinesiology | Email Address: dean@iastate.edu |
| Type of Project: (check all that apply) | |
| □ Research □ Thesis □ Dissertation □ Class project | |
| □ Independent Study (490, 590, Honors project) | Other—Please specify: |

**KEY PERSONNEL**

List all members and relevant experience of the project personnel. This information is intended to inform the committee of the training and background related to the specific procedures that each person will perform on the project.

<table>
<thead>
<tr>
<th>NAME &amp; DEGREE(S)</th>
<th>SPECIFIC DUTIES ON PROJECT</th>
<th>TRAINING &amp; EXPERIENCE RELATED TO PROCEDURES PERFORMED, DATE OF TRAINING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katherine R. Whipple</td>
<td>Primary Data Collector</td>
<td>6/11/08</td>
</tr>
<tr>
<td>Dean F. Anderson</td>
<td>Supervision/Project Manager</td>
<td>7/20/00</td>
</tr>
</tbody>
</table>

**FUNDING INFORMATION**

| Internally funded, please provide account number: N/A |
| Externally funded, please provide funding source and account number: N/A |
| Funding is pending, please provide OSPA GoldSheet ID: N/A |
| Title on GoldSheet if different from above: N/A |
| Other: e.g., funding will be applied for later, project not funded. N/A |

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SCIENTIFIC REVIEW

☐ Yes ☒ No Has or will this project receive peer review?

If the answer is "yes," please indicate who did or will conduct the review:

If a review was conducted, please indicate the outcome of the review: NA

COLLECTION OR RECEIPT OF SAMPLES

Will you be: (Please check all that apply)

☐ Yes ☒ No Receiving biological samples from outside of ISU? See examples below.

☐ Yes ☒ No Sending biological samples outside of ISU? See examples below.

Examples include: genetically modified organisms, body fluids, tissue samples, blood samples, pathogens.

If you will be receiving samples from or sending samples outside of ISU, please identify the name of the outside organization(s) and the types of samples you will be sending or receiving outside of ISU:

NA

ASSURANCE

- I certify that the information provided in this application is complete and accurate and consistent with any proposal(s) submitted to external funding agencies.
- I agree to provide proper surveillance of this project to ensure that the rights and welfare of the human subjects or welfare of animal subjects are protected. I will report any problems to the appropriate assurance review committee(s).
- I agree that I will not begin this project until receipt of official approval from all appropriate committee(s).
- I agree that modifications to the originally approved project will not take place without prior review and approval by the appropriate committee(s), and that all activities will be performed in accordance with all applicable federal, state, local and Iowa State University policies.
CONFLICT OF INTEREST

ISU's Conflict of Interest Policy requires that investigators and key personnel disclose any significant financial interests or relationships that may present an actual or potential conflict of interest. A conflict of interest can be defined as a set of conditions in which an investigator's or key personnel's judgment regarding a project (including human or animal subject welfare, integrity of the research) may be influenced by a secondary interest (e.g., the proposed project and/or a relationship with the sponsor). By signing this form below, you are certifying that all members of the research team, including yourself, have read and understand ISU's Conflict of Interest policy as addressed by the ISU Faculty Handbook (http://www.provost.iastate.edu/faculty) and have made all required disclosures.

☐ Yes  ☑ No  Do you or any member of your research team have an actual or potential conflict of interest?

☐ Yes  ☐ No  If yes, have the appropriate disclosure form(s) been completed?

SIGNATURES

Katie L. Whipple  10/4/08
Signature of Principal Investigator  Date

Philip E. Oliver  10/4/08
Signature of Department Chair  Date

FOR IRB USE ONLY:

☐ Project is exempt.
☐ Project is not exempt.

Kerry A. Anderson
IRB Reviewer's Signature  Date  Nov 11, 2008

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SECTION II. EXEMPTION CATEGORY

The following categories and sub-parts are eligible for exempt status review.
Check all applicable categories and sub-parts below. To select a category box, double-click on the check box.

PLEASE NOTE:

All procedures for all subjects in a project must be exempt in order for the project to be reviewed for exemption (i.e., all of the activities that participants will be asked to participate in must be found in one or more of the following categories).

Exemption does not apply if the targeted populations for the research will involve individuals who are legally incompetent, significantly mentally ill or impaired, or those who are vulnerable to extraordinary institutional coercion, such as prisoners, residents of 24-hour nursing facilities or anyone who is involuntarily confined.

Investigators whose research projects involve procedures which do not fit within an exempt category will be asked to complete the ISU New Human Subjects Review Form.

Investigators conducting research that fits into the exempt categories of research are not required to obtain a volunteer's consent to participate using an informed consent document containing all of the elements of consent. However, the IRB requires that the following items be included in an informed consent document or letter of introduction: a statement that the project involves research; a statement that participation is voluntary; a statement that the participant may skip any questions they do not feel comfortable answering in a survey; and the measures that will be used to ensure confidentiality of data collected in the research.

☐ Education Practices: Research conducted in established or commonly accepted educational settings, involving normal educational practices is exempt when:

☐ research is on regular and special education instructional techniques, or;
☐ research is on the effectiveness of, or the comparison among, instructional techniques, curricula, or classroom management methods.

☐ Educational Tests: Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement) is exempt if:

☐ in the researcher's private data (including field notes), as well as in any published material, information taken from these sources is recorded in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects, or;
☐ the information, if disclosed outside of the research, could not reasonably place the subject at risk of criminal or civil liability or be damaging to the subject's financial standing, employability, or reputation.
☐ **Surveying or Interviewing**: Research involving, or interview procedures of, adult-aged subjects is exempt if:

☑ in the researcher’s private data (including field notes), as well as in any published material, responses are recorded anonymously and in such a manner that the human subjects cannot be identified, directly or through identifiers linked to the subjects; or

☑ the responses, if disclosed outside of the research, could not reasonably place the subject at risk of criminal or civil liability or be damaging to the subject’s financial standing, employability, or reputation.

This exemption does not apply if the subjects are minor children or other vulnerable participants.

☐ **Public Observations**: Research involving observation of public behavior is exempt if:

☑ in the researcher’s private data (including field notes), as well as in any published material, information taken from these sources is recorded in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects; or

☑ the information, if disclosed outside of the research, could not reasonably place the subject at risk of criminal or civil liability or be damaging to the subject’s financial standing, employability, or reputation.

This exemption applies to research involving minor children only when the investigator does not participate in the activities observed. Workplace meetings and activities, as well as classroom activities, are not considered “public behavior.”

☐ **Public Officials**: All research involving educational tests, survey or interview procedures, or public observations is exempt when the respondents are elected or appointed public officials or candidates for public office.

Managers and staff in public agencies are not “public officials” in most cases.

☐ **Existing Data**: Research involving the collection of existing data, documents, records, pathological or diagnostic specimens is exempt if:

☑ these sources are publicly available, or

☑ in both the researcher’s private data (including field notes) and in any published material, the information is recorded by the researcher in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

☐ **Taste and Food Quality**: Research on taste and food quality evaluation and consumer acceptance studies is exempt if:

☑ wholesome food without additives will be used, or

☑ the food does not contain a food ingredient that is at or below the level found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.
III. PROTOCOL INFORMATION

1. Please outline the study procedures including a complete description of how subjects will be involved and what type of data collection method will be used. Include study dates, the number of individuals contacted to participate in the study, as well as the number of subjects actually enrolled in the study. Attach a copy of all data collection instruments including surveys, interview or focus group questions, etc.

In order to conduct this study permission will be obtained from all of the targeted colleges and universities. The first step in this process will be contacting the athletic directors at each institution. Through this first contact the athletic directors will be informed of the basic tenets of the study and asked whether or not they would allow the researcher to contact the coaches at the institution and, subsequently, the student-athletes. If the athletic director agrees to allow student-athletes to participate in the study, the researcher will then contact each head coach of the sports teams and gain permission to administer the survey to their particular team. Then the primary data collector will personally travel to each institution to administer the survey during a designated team meeting. Student-athletes will be informed that their participation is completely voluntary and reminded that their responses will be anonymous and kept confidential. In addition, the modified informed consent letter will be handed out to all participants. Once this form has been read by participants they will be asked if they have any questions regarding the research. The primary data collector will then hand out surveys to each student-athlete who agrees to participate in the study.

We expect to contact a total of five colleges and universities, and subsequently target about 1,000 participants. We expect that approximately 850 participants will complete the study. It is hoped that data collection can begin in late October 2006 and the final project will be finished by December 31, 2006.

2. List characteristics of your study population (i.e., ages, student status, gender, ethnicity, etc.) and your rationale for choosing them for the study. (Studies with vulnerable populations such as children, adolescents, prisoners, or other institutionalized individuals are not eligible for exempt review.)

For this study male and female student-athletes will be recruited from colleges and universities comprising a nationally competitive Division III athletic conference, the Iowa Intercollegiate Athletic Conference. Only members of varsity rosters will be recruited. The sports to be included in the study are men's and women's basketball, men's and women's cross country, men's and women's soccer, and men's and women's track and field. These teams were chosen because they are fielded at every school and each have an equal male or female counterpart. They were also chosen because they represent an even number of co-ed and interacting sports teams. Because these are small private colleges and universities located in Iowa we expect a majority of the participants to be Caucasian along with a small percentage of respondents belonging to various minority groups.

3. Describe any potential risk and assess its level of likelihood and seriousness. Risks could be physical, psychological, social, or legal and can include minor discomfort and/or embarrassment. Describe the procedures to be used for protecting against or minimizing any potential risk, including the risks to disclosure of confidentiality.

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It is unlikely that the participants will assume any risks or discomforts as a result of participating in this study. The data collection process will be performed by one of the two researchers involved. There will be no identifying markers on the surveys that link an individual to a particular survey. Thus, confidentiality of data is maintained.

4. Describe the informed consent process to be used for the study. Attach copies of consent forms, information sheets and/or letters of introduction that will be used. Also attach any documents that will be used for advertising purposes.

A modified informed consent procedure will be utilized. An informational letter explaining the purposes, procedures, contact persons, and other information will be provided to participants at the time of initial contact. This information will also be explained orally by the researcher as the participants read the letter. A copy of this letter is attached.
APPENDIX B: CONTACT LETTER

John Doe                                            September 15, 2008
Athletic Director                                  
Any College                                        
500 University Ave.                                
Anytown, IA 55555                                   

Dear Mr. Doe:

My name is Katie Pederson Whipple and I am a graduate student at Iowa State University where I am working toward my Master of Science degree in the Department of Kinesiology. Over the past several months I have been developing a research project to conduct for my final thesis. The purpose of this letter is to briefly explain my project and invite your institution to participate in my study. Your institution has been randomly selected from among all Iowa Intercollegiate Athletic Conference institutions.

The aim of the project is to investigate the levels of athletic identity associated with intercollegiate athletic participation. I also plan to look at how these identity structures relate to the career preparation and development process of intercollegiate student-athletes. I hope that the findings will benefit society as a whole, as well as educational institutions, by leading to a better understanding of the experiences of intercollegiate athletes as they prepare to start careers after finishing college.

There are no known physical or psychological risks associated with completing this survey, however, some questions may be considered sensitive. Participating in this study is completely voluntary for student-athletes. They may choose not to take part in the study or to stop participating at any time, for any reason, without penalty or negative consequences. Participants can skip any questions that they do not wish to answer. There will be no records identifying participants. Names will not appear on the questionnaire, and you may be assured of complete confidentiality. Individual identities will not be identified or reported. The published results will not refer to any individual or institution and all discussions will be based on group data. All procedures utilized for this research project will be approved by the Institutional Review Board at Iowa State University.

My objective is to collect data by using questionnaires to survey intercollegiate student-athletes. If your institution chooses to participate, the process will include at least one visit from me to your institution to administer the surveys to the student-athletes. I expect the surveys to take no more than 20 minutes to complete. Meetings for the administration of the survey will be set up at the convenience of each team. A copy of the instrument is included for your review. The teams I hope to include in the investigation are:

- Men’s and women’s basketball
- Men’s and women’s track and field
- Men’s and women’s cross country
- Men’s and women’s soccer

I have enclosed an authorization form for you to sign and return to me if you choose to allow student-athletes at your institution to participate in this study. I have also provided a self-addressed and stamped envelope to simplify the return process.

If you have any questions about this study please contact me via email or telephone. Your cooperation and participation are extremely important and we thank you for considering our request.

Sincerely,

Katie Pederson Whipple                          Dr. Dean F. Anderson
Graduate Student                                 Professor
katierae@iastate.edu                             deanf@iastate.edu
(515) 294-7312                                   (515) 294-3427

Enclosures
APPENDIX C: ATHLETIC DIRECTOR AUTHORIZATION FORM

Athletic Department Authorization Form:
Katie Pederson Whipple’s Thesis Research using Student-Athletes

Yes  No

☐ ☐ I have read the introductory letter and understand the level of involvement student-athletes at my institution will have in this project.

☐ ☐ I have received satisfactory answers to any questions I have asked regarding this research project.

☐ ☐ I understand that my institution and/or any individual student-athlete is free to end participation at any time without providing a reason why.

☐ ☐ I understand that the anonymity of my institution and student-athletes will be maintained in all phases of this project, including any published reports.

☐ ☐ I agree to allow student-athletes at my institution to participate in this study.

☐ ☐ I, John Doe, agree to grant Katie Pederson Whipple, of Iowa State University, permission to contact the coaches listed below at Any College in order to gain access to student-athletes for her thesis research.

Men’s and women’s basketball  Men’s and women’s track & field
Men’s and women’s cross country  Men’s and women’s soccer

By signing below I verify that I have honestly replied to the above statements and agree to allow the student-athletes at my institution to participate in this study.

_________________________________________  ________________
John Doe, Athletic Director, Any College  Date
APPENDIX D: INFORMED CONSENT AND INSTRUMENT

Dear Participant:

This form describes a research project. It has information to help you decide whether or not you wish to participate. Your participation is completely voluntary. Please discuss any questions you have about the study or about this form with the project staff before deciding to participate.

We are conducting a research investigation in order to better understand athletic identity and career preparation and readiness among intercollegiate student-athletes. As a varsity member of an intercollegiate athletic team we are requesting your participation in a study that is concerned with your experiences as a student-athlete. Your openness and cooperation are extremely important and greatly appreciated. The results of this study are expected to yield a better understanding of intercollegiate student-athletes and how the experiences of intercollegiate athletes shape their career development process.

You should not participate in this study if you are under the age of 18. If you agree to participate you will be asked to complete a survey about your experiences as an intercollegiate student-athlete and your personal career preparation process. Participation in this study will only require you to be contacted one time, during which you will complete the survey. Your participation will last for about 20 minutes. A brief explanation of the project and reading of the informed consent document will take roughly 5 minutes. The questionnaire you will be given will take about 15 minutes to complete.

There are no known physical or psychological risks associated with completing this questionnaire, however, some questions may be considered sensitive. Participating in this study is completely voluntary. You may choose not to take part in the study or to stop participating at any time, for any reason, without penalty or negative consequences. You can skip any questions that you do not wish to answer. Your choice of whether or not to participate will have no impact on you as a student-athlete in any way. There will be no records identifying participants. Your name will not appear on the questionnaire, and you may be assured of complete confidentiality. The published results will not refer to any individual or institution and all discussions will be based on group data.

You are encouraged to ask questions at any time before or during this investigation. The procedures utilized in this investigation have been reviewed and approved by Iowa State University. If you have any questions, please contact Katie Whipple at katierae@iastate.edu or 515-294-7312 or Dr. Dean Anderson at dean@iastate.edu or 515-294-3427. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, IRB@iastate.edu, or Diane Ament, Director of Research Assurances, (515) 294-3115; dament@iastate.edu, Office of Research Assurances, 1138 Pearson Hall, Iowa State University, Ames, Iowa 50011.

Sincerely,

Katie Pederson Whipple
(515)-294-7312
katierae@iastate.edu
Suite 164 Forker Building

Dr. Dean F. Anderson
(515) 294-3427
deanf@iastate.edu
207 Forker Building
Part A. Instructions: Please respond honestly to each item below.

1. Gender: Male_______ Female_______

2. Age: (in years)_____

3. Race/Ethnicity (Circle one)

   (a) White, not of Hispanic Origin. Persons having origins in any of the original people of Europe.

   (b) African American. Persons having origins in any of the Black racial groups of Africa.

   (c) Asian or Pacific Islander. Persons having origins in any of the original people of the Far East, Southeast Asia, Indian Subcontinent, or the Pacific Islands.

   (d) Middle Easterner or North African.

   (e) American Indian or Alaska Native. Persons having origins in any of the original peoples of North America.

   (f) Hispanic. Persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of language.

   (g) Other: _____________________________

4. What is your current year in college?
   _____________________________

5. Please select the sport(s) that you participate in on the varsity level at your institution.

   (a) Women’s Basketball    (e) Women’s Cross Country
   (b) Men’s Basketball      (f) Men’s Cross Country
   (c) Women’s Soccer        (g) Women’s Track and Field
   (d) Men’s Soccer          (h) Men’s Track and Field

6. Please indicate your academic major (if unknown please indicate) _____________________________

7. Please indicate your home state/state of residence _____________________________

8. Please estimate the total number of students in your high school graduating class _________

9. Was the high school you graduated from:

   (a) Public    (b) Private    (c) Other _____________________________

10. Would you consider the location of the high school you graduated from as:

    (a) Urban/City    (b) Suburban    (c) Rural    (d) Other _______________

11. At what age did you begin organized competition in your sport? (in years) _______________

**Part B. Instructions:** For the next 10 questions, please circle the number which corresponds most closely to your personal thoughts, feelings, and experiences. For each item indicate on a scale from (1) strongly disagree to, (7) strongly agree. Please circle only one response (number) per item.

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

**Part C. Instructions:** For the next 10 questions, please circle the number which corresponds most closely to your personal thoughts, feelings, and experiences. For each item indicate on a scale from (1) strongly disagree to, (5) strongly agree. Please circle only one response (number) per item.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Athletics help me express my emotions and feelings.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>2. It is very important for me to succeed at my sport.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>3. My popularity with others is related to my athletic ability.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>4. I obtain personal satisfaction from participating in athletics.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>5. I only participate in sports because I am good at them.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>6. I often fear people will not like me as much if I do not compete well.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>7. My primary reason for competing in my sport is receiving awards and recognition.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>8. Being an athlete is an important part of who I am.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>9. I fear not receiving the recognition and attention I get from being an athlete when I retire.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>10. I would feel a great sense of loss if I suddenly were unable to participate in my sport.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>
Part D. Instructions: For the next six questions, please circle the number which corresponds most closely to your personal thoughts, feelings, and experiences. For each item indicate on a scale from (1) strongly disagree to, (6) strongly agree. Please circle only one response (number) per item.

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I might have thought about a lot of different things but there has never really been a decision since my parents said what they wanted.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>My parents had it decided a long time ago what I should go into and I’m following their plans.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>I guess I am pretty much like my folks when it comes to politics. I follow what they do in terms of voting and such.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>My folks have always had their own political and moral beliefs about issues like abortion and mercy killing and I’ve always gone along accepting what they have.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>I attend the same church as my family has always attended. I've never really questioned why.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>I've never really questioned my religion. If it’s right for my parents it must be right for me.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>

Part E. Instructions: For the next 50 questions, please place an “X” in the column to respond to each item below as it relates to your personal thoughts, feelings, and experiences. Please choose only one response for each item.

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Once you choose a job, you can't choose another one.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>In order to choose a job, you need to know what kind of person you are.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>I plan to follow the line of work my parents suggest.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>I guess everyone has to go to work sooner than later, but I don't look forward to it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>You can do any kind of work you want to as long as you try hard.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>I'm not going to worry about choosing an occupation until I'm out of school.</td>
<td></td>
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<tr>
<td>7.</td>
<td>Your job is important because it determines how much you can earn.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Work is worthwhile mainly because it lets you buy the things you want.</td>
<td></td>
<td></td>
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<tr>
<td>9.</td>
<td>The greatest appeal of a job to me is the opportunity it provides for getting ahead.</td>
<td></td>
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<tr>
<td>10.</td>
<td>I often dream about what I want to do, but I really haven't chosen a line of work yet.</td>
<td></td>
<td></td>
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<tr>
<td>11.</td>
<td>You should choose a job that allows you to do exactly what you want to do.</td>
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<tr>
<td>12.</td>
<td>Your parents know better than anybody else which occupation you should enter.</td>
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<tr>
<td>13.</td>
<td>If I can just help others in my work, I'll be happy.</td>
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<td></td>
</tr>
<tr>
<td>Part E. Continued</td>
<td>Agree</td>
<td>Disagree</td>
<td></td>
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<tr>
<td>-------------------------------------------------------</td>
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<td></td>
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<tr>
<td>14. Work is dull and unpleasant</td>
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<tr>
<td>15. Everyone seems to tell me something different; as a result I don’t know what kind of work to choose.</td>
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<tr>
<td>16. I don’t know how to go about getting into the kind of work I want to do.</td>
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<tr>
<td>17. There is no point in deciding upon a job when the future is so uncertain.</td>
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<tr>
<td>18. I spend a lot of time wishing I could do work I know I can never do.</td>
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<tr>
<td>19. I don’t know what courses I should take in school.</td>
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<tr>
<td>20. It’s probably just as easy to be successful in one occupation as it is in another.</td>
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<tr>
<td>21. By the time you are 15 you should have your mind pretty well made up about the occupation you intend to enter.</td>
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<tr>
<td>22. Whether you are interested in a particular kind of work is not as important as whether you can do it.</td>
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<tr>
<td>23. I seldom think about the job I want to enter.</td>
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<tr>
<td>24. It doesn’t matter which job you choose as long as it pays well.</td>
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<tr>
<td>25. You can’t go very far wrong by following your parents’ advice about which job to choose.</td>
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<tr>
<td>26. Working is much like going to school.</td>
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<tr>
<td>27. I am having difficulty preparing myself for the work I want to do.</td>
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<tr>
<td>28. I know very little about the requirements of jobs.</td>
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<tr>
<td>29. The job I choose has to give me plenty of freedom to do what I want.</td>
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</tr>
<tr>
<td>30. The best thing is to do is to try out several jobs, and then choose the one you like best.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>31. There is only one occupation for each person.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. There are so many things to consider in choosing an occupation, its hard to make a decision.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. I can’t understand how some people can be so certain about what they want to do.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34. As long as I can remember, I’ve known what kind of work I want to do.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35. I want to really accomplish something in my work – to make a great discovery or earn a lot of money or help a great number of people.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>36. You get into an occupation mostly by chance.</td>
<td></td>
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<tr>
<td>37. It’s who you know, not what you know that’s important in a job.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>38. When it comes to choosing a job, I’ll make up my own mind.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part E. Continued.

<table>
<thead>
<tr>
<th>39. You should choose an occupation which gives you a chance to help others.</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>40. When I am trying to study, I often find myself daydreaming about what it will be like when I start working.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>41. I have little or no idea what working will be like.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42. You should choose an occupation, then plan how to enter it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>43. I really can't find any work that has much appeal to me.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44. You should choose a job in which you can someday become famous.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>45. If you have some doubts about what you want to do, ask your parents or friends for advice or suggestions.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46. Knowing what jobs are open is more important than knowing what you are good at when you choose an occupation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>47. The most important part of work is the pleasure that comes from doing it.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48. I keep changing my occupational choice.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>49. As far as choosing an occupation is concerned, something will come along sooner or later.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50. You shouldn't worry about choosing a job because you don't have anything to say about it anyway.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thank you for taking time to participate in this study. Please wait quietly until the researcher collects the surveys.
REFERENCES


