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Career Decision-Making for Young Elite Athletes: Are We Ahead on Points?

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Abstract

A comparison is made between the career decision-making of high school students who are also elite athletes and a sample of non-athlete students. The 226 athletes (111 females, 115 males) in the study were on sporting scholarships with the Australian Institute of Sport or state/territory institutions. Measures included the *Career Decision Difficulties Questionnaire*, and the *Athletic Identity Measurement Scale*. The non-athlete data were obtained from 272 high school students (149 females, 123 males). Only three athletes indicated a singular focus on a career in professional sport. There were significant relationships between athletic identity and career decision difficulties, especially in relation to dysfunctional myths, and only one difference between difficulties reported by athletes and non-athletes. Tentative conclusions are drawn about the factors that impact on career decision making among elite athletes and possible directions for future research.

Keywords: athletes; students; career development; myths; career decision difficulties

Career Decision-Making for Young Athletes: Are We Ahead on Points?

One of the tasks of adolescence is envisioning and planning for future careers. While career decision-making is frequently seen as a challenge by many young people, there is one group for whom this task presents additional difficulties and complications – young elite athletes. Apart from restrictive training and competition regimes, there are additional factors that restrict the athletes' other-life planning. Research has highlighted athletic identity, that is, the extent to which one defines oneself as an athlete (Brewer, VanRaalte, & Linder, 1993), as one of the major issues impacting on athletes' personal and psychological development. Another related issue of concern is identity foreclosure, which is a premature commitment to a particular occupation or ideology (Petitpas, 1978). These issues have been long recognised and a number of programs have been developed to alleviate their impact. In recent years, the educational and long-term career development needs of Australia's elite athletes have been addressed through the Athlete Career and Education (ACE) Program.

Based on a program first developed at the Victorian Institute of Sport in 1990, the National ACE program was implemented in 1995. Services were made available to all athletes on scholarship with the Australian Institute of Sport (AIS) or any of the state or territory Institutes or Academies of Sport. The aims of the program are to help broaden the narrow focus of identifying as an athlete, to increase athletes' personal skills and knowledge, and to help them adopt broader goals and a more balanced life-perspective (Anderson, 1998). As an indirect means of assessing the effectiveness of the ACE program, this study examined the career choices of a group of young high school students who were ACE participants and elite athlete scholarship holders, and compared their career decision-making against benchmark data from a non-athlete high school sample.

Identity formation is a life-long process which occurs as individuals take note of and internalise the appraisals of people whose opinions they value (Harter, 1996), and is seen as integral to healthy and adaptive development. Self-concept or self-identity is seen as multi-dimensional (Marsh, Perry, Horsely, & Roche, 1995), and is represented as a diverse set of images and conceptions about the self (Cantor, Markus, Niedenthal, & Nurius, 1986). The many and varied self-dimensions that an individual possesses all have the potential to motivate and direct behaviour (Cantor et al.). Webb and Nasco (1998) proposed that the formation of a strong athletic identity is problematic because it differs from other role identities in significant ways: It is formed and internalised early in life; it is likely to dominate and subsume all other identities; it often has a public dimension due to the high profile of many sportspeople; it is defined by performance pressure; and it provides a high level of status and esteem which is unlikely to be achieved through other means.

Previous studies have proposed that athletic identity is inversely related to career maturity (Murphy, Petitpas, & Brewer, 1996), and that identity foreclosure has an adverse impact on career decision-making through its association with dependent and deferent decision-making styles (Blustein & Phillips, 1990). This can have a significant impact on life choices for young athletes who may continue to defer to influential others, such as coaches or parents, for their decisions. Identity foreclosure also has a negative impact on career decision self-efficacy (Brown, Glastetter-Fender, & Shelton, 2000). Martens and Lee (1998) summarised the probable causes for athletes' limited engagement in career exploration and decision-making as being associated with time constraints, dependent style related to a highly structured lifestyle, athletic identity, and focussed commitment to sport. There are also problems associated with the special attention athletes receive, which can set them apart from

their non-sporting peers and prevent “normal” psychosocial development (Remer, Tongate, & Watson, 1978).

However, Martens and Cox (2000) observed that while the notion of a link between athletic identity and career maturity has intuitive appeal, most studies of the issue have been theoretical, and that such an association has rarely been demonstrated empirically. They found only a small difference in career maturity between athletes and non-athletes, and no relationship between career maturity and measures of athlete identity and sport commitment. Brown and Hartley (1998) and Kornspan and Etzel (2001) similarly found no relationship between athlete identity and career maturity. Martens and Cox suggested that a possible reason for these disconfirming results may be that athletes tend not to differentiate between the notion of their sport and their career.

The fact that some found a relationship between career maturity and athlete identity and others did not may also be due to the fact that different instruments were used in the various studies to measure career maturity. Westbrook (1983) was among the first to note that there appeared to be little agreement among career theorists as to the definition or meaning of the construct of career maturity. His concern was echoed by Betz (1992) who observed that there continued to be a lack of consensus on the issue. Most definitions are based on developmental theory and include notions of age-appropriate attitudes, knowledge, and behaviours. A recent study by Creed and Patton (2003) highlighted the importance of investigating both attitude and knowledge components of career maturity as they found different predictor variables associated with each. The *Career Decision Difficulties Questionnaire* (CDDQ; Gati, Osipow, & Krausz, 1996), the measure used in this study, measures both these components as well as conflicts related to external environmental and interpersonal factors.

Another reason why there have been inconsistent findings regarding the relationship between athletic identity and career maturity could be that such an association may have existed in the past, but that this is starting to change due to the impact of athlete career and life development programs. The ACE program takes an individualised and integrated approach, and is designed to enhance the personal and life development of athletes in tandem with their sporting career (Flanagan, 2000). ACE services consist of individual counselling and group sessions and have been available to all athletes on scholarship with the AIS or one of the state or territory institutes or academies of sport since 1995. Evaluations of the program (Albion & Fogarty, 2003; Gorely, Bruce, & Teale, 1998) have shown the program to have very high acceptance by athletes and coaches. It has also been shown that athletes' involvement with ACE is associated with higher levels of motivation to make career-related decisions and a better knowledge of career and educational options (Albion & Fogarty, 2003).

The present study examined the career choices and career decision status of a number of young athletes. All were sporting scholarship holders with one of Australia's Institutes or Academies of Sport, which indicates that their sporting prowess has been recognised as being at an elite level. They were all in their final years of high school. The athletes' career decision status was compared with benchmark data obtained from a group of similarly aged high school students who were not elite athletes. It was predicted that:

1. Athletes would display behaviours indicative of identity foreclosure, a psychological construct defined by Marcia (1966) as demonstrating a reliance on others and an early commitment to occupations and beliefs. A behavioural indicator of identity foreclosure as an athlete was obtained in this study by asking athletes to

nominate the career options they were currently considering. Athletes who nominated professional sport as their only career option were classified as demonstrating identity foreclosure.

2. Athletic identity would be positively related to levels of career decision-making difficulties.

3. Athletes would report more career decision-making difficulties than non-athletes.

Participants

The 226 athletes (111 females, 115 males) in the study were on AIS or state/territory sporting scholarships. Participants were selected from a larger pool of athletes surveyed in the first phase of a 5-year evaluation of the ACE program (Albion & Fogarty, 2003). As part of the evaluation, survey forms were distributed to all AIS scholarship athletes ($n = 2915$) in early 2003. Completed surveys were returned by 917 athletes (ages ranging from 11-60 years) from all Australian states and territories, giving a response rate of 31.5%. Those athletes in the larger sample who were aged 16-17 years and were still in high school were chosen for inclusion in the current study. They represented 27 different sports, with the largest numbers involved in basketball (46), soccer (32), swimming (21), water polo (19), baseball (19), volleyball (15), netball (12), hockey (10), and softball (10). As it was anticipated that sports with high income potential were more likely to be considered as career choices than those with less income potential, the 27 sports were recoded into a dichotomous variable, according to whether they were high or low income producing sports. Sports classified as high income were football codes, basketball, cricket, golf, and tennis. Sixty-nine percent of the sample reported having some involvement with the ACE program.

The non-athlete data were obtained in late 1999 from 272 high school students (149 females, 123 males), also aged 16 or 17 years, from four high schools in a regional Queensland city. These students had volunteered to participate in a study of career decision-making which was conducted in school time with the support of their career counsellors/guidance officers. While the sample included students from both co-educational and single-sex schools, as well as State and private schools, they may not be representative of high school students in other parts of Australia.

Assessment Tools

The Athletic Identity Measurement Scale (AIMS; Brewer et al., 1993). The AIMS is a 10-item scale, asking respondents to indicate on a Likert rating scale the extent to which they agree with various statements about attitudes to sport. A sample item is “I need to participate in sport in order to feel good about myself”. High scores indicate a high level of identity as an athlete. Principal component analysis by the test authors revealed that the AIMS measures a single construct (eigenvalue = 6.03). It has good internal consistency ($\alpha = .93$), and a 7-day test-retest reliability of .89. The construct validity of the scale was demonstrated by its significant convergence ($r = .83, p < .001$) with the *Perceived Importance Profile (PIP)*, which measures the importance of body image, sporting competence, physical condition, and strength (Brewer et al., 1993).

The Career Decision Difficulties Questionnaire (CDDQ; Gati, Osipow et al., 1996). The CDDQ consists of introductory questions about level of career undecidedness, satisfaction with decision status, and confidence with current choice. These are followed by 44 statements of attitudes to and beliefs about career decision-making. Respondents are asked to indicate their level of agreement with these

statements on a 9-point scale, ranging from 1 (*Does not describe me*) to 9 (*Describes me well*).

The CDDQ differentiates three categories of difficulty – Lack of Readiness to make a career decision, Lack of Information, and Inconsistent Information. These three categories are further subdivided into a number of subscales.

Lack of Readiness incorporates Lack of Motivation (RM), Indecisiveness (RI), and Dysfunctional Myths (RD). The second category, Lack of Information, is subdivided into Lack of Knowledge about the Process (LP), Lack of Knowledge about the Self (LS), Lack of Knowledge about Occupations (LO), and Lack of Knowledge about how to access Additional Sources of Information (LA). The third category, Inconsistent Information, consists of Unreliable Information (IU), Internal Conflicts (II), and External Conflicts (IE). Gati, Krausz, and Osipow (1996) found good internal consistency for Inconsistent Information ($\alpha = .89$), and Lack of Information ($\alpha = .95$), although Lack of Readiness was less reliable ($\alpha = .63$). Overall reliability of the scale was .94. Test-retest reliability ($r = .80$) was assessed over a 3-day period. Construct validity was demonstrated by convergence with the *Career Decision Scale* and the *Career Decision Self-Efficacy Scale* (Osipow & Gati, 1998).

Some minor variations were made to the CDDQ to adapt it to the purposes of the evaluation study for which it was used. Levels of undecidedness were measured on a 9-point scale rather than the 3-point scale in the original version, to make the rating scale of this item consistent with the other items in the CDDQ. The three items in the Dysfunctional Myths scale were replaced by ideas which were more likely to be concerns of athletes, such as “I believe that thinking about post-sporting career options will distract from my current athletic commitment and performance”. The implications of these changes are discussed in the Results section.

As part of this questionnaire, respondents were also asked to nominate, in order of preference, up to four careers they were currently considering. These responses were used as an indicator of identity foreclosure.

Procedure

Approval for the study was obtained from the AIS Ethics Committee and survey forms were distributed by the ACE coordinators in each state. Confidentiality was assured by asking athletes to seal their completed forms in the envelopes provided and then to return them to their ACE coordinator, or to mail them (reply paid) to the researchers.

Results

Career Choices of Athletes

As a means of identifying whether the athletes in the study were demonstrating characteristics of identity foreclosure by failing to explore alternative roles and interests, they were asked to list, in order of preference, careers they were currently considering. Athletes' career choices were classified into three categories: sport, sport-related, and non sport-related. Some examples of sport-related careers were coaching, sports management, health and fitness, and sports teaching. A wide variety of non sport-related options were listed including careers in science, business, law, and trades. Two hundred and seven athletes (91.6%) were able to nominate at least one career option. Of these, 49 (21.3%) nominated one choice, 62 (27.6%) listed two options, 59 (26.2%) listed three, while 37 (16.4%) were able to nominate four career choices they were currently considering. Of the 49 who were focusing on a single option, only three (1.3% of the entire group) had listed professional sport as their sole career choice. All three were males, and their sports were baseball, swimming, and basketball. Twenty-one others listed sporting-related options, while

25 were considering careers in fields not associated with sport. Details of the total frequency of career preferences are presented in Table 1. An important feature of these data is the relatively low number of athletes who nominated sport as a career option. Out of a total 488 nominated careers, only 51 of these were for careers in various sports (which represents the choices of 45 athletes). By contrast there were 232 non sport-related careers nominated. These results did not support the first hypothesis. In general, there appears to be very little evidence that these athletes are displaying behaviours indicative of identity foreclosure.

Summary of Athletes' Career Choices (N =226)

Career	Pref 1	Pref 2	Pref 3	Pref 4	Total
Sport	34	11	5	1	51
Sport-related	87	69	45	14	215
Non sport-related	86	78	46	22	232
Total (%)	207	158	96	37	
	(91.6%)	(69.9%)	(42.5%)	(16.4%)	

Note. In some cases individuals chose more than one career from the same category, and 158 people listed more than one career option, therefore totals exceed the sample number. Row totals do not necessarily represent the number of people who nominated each career choice, but are rather an indication of the frequency of those selections.

Reliability and Correlations

Reliability analysis of the CDDQ scales revealed low internal consistency for the Lack of Readiness subscales, as had been found in previous analyses (Albion, 2000; Gati, Krausz, et al., 1996), with alpha coefficients of .56 for Lack of Motivation, .65 for Indecisiveness, and .56 for Dysfunctional Myths. Using factor

analysis to investigate the subscale structure of the CDDQ, Albion found that the Lack of Readiness scale was better defined by re-allocating some items and eliminating others, resulting in two subscales – Lack of Motivation, consisting of items 1, 3, and 6; and Indecisiveness, consisting of items 4, 5, and 7 – rather than the three suggested by the scale authors. Analysis of these revised scales showed them to have better internal consistency, with the modified Lack of Motivation scale reaching .63 and the modified Indecisiveness scale reaching .70. While these alpha coefficients were still moderately low, they were acceptable for group assessment in basic research (Nunnally & Bernstein, 1994). The internal consistency reliability estimate for Dysfunctional Myths, however, could not be improved. Factor analysis showed that two of the items measuring this construct had high ($> .60$) communality estimates but that the third item was much lower ($< .35$). Nevertheless, the solution was unidimensional so for the analyses that follow, the three items were summed to yield an aggregate measure of dysfunctional myths.

Correlational analyses were conducted to calculate relationships among measures for the athlete sample. Results are presented in Table 2 along with internal consistency measures of the AIMS and the CDDQ subscales. All categories of career decision difficulties were related positively with undecidedness and all but Dysfunctional Myths were related inversely with satisfaction with decision status and confidence in the decision. Moderate intrascale correlations were evident among the four Lack of Information subscales (ranging from .61 to .76), and the three Inconsistent Information subscales (ranging from .54 to .79). The two modified Lack of Readiness scales (RM and RI) were related but not as strongly as the Information scales ($r = .35, p < .05$).

Correlational and Reliability Data for Athletes on Subscales of the Career Decision Difficulties Questionnaire, the Athletic Identity Measurement Scale, and demographic variables (N = 226)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Undecided																
2. Satisfaction	-.46*															
3. Confidence	-.39*	.66*														
4. RM(Mod)	.37*	-.37*	-.39*	.63												
5. RI(Mod)	.11	-.23*	-.31*	.35*	.70											
6. RD	.14*	.03	-.02	.36*	.11	.56										
7. LP	.42*	-.48*	-.36*	.76*	.36*	.36*	.89									
8. LS	.52*	-.57*	-.53*	.62*	.40*	.40*	.67*	.92								
9. LO	.43*	-.46*	-.32*	.51*	.38*	.38*	.76*	.74*	.89							
10. LA	.32*	-.45*	-.27*	.42*	.32*	.32*	.61*	.65*	.76*	.73						
11. IU	.39*	-.38*	-.42*	.53*	.38*	.38*	.58*	.72*	.67*	.63*	.84					

12. II	.39*	-.36*	-.38*	.52*	.47*	.37*	.62*	.69*	.69*	.62*	.79*	.78				
13. IE	.21*	-.18*	-.18*	.36*	.21*	.33*	.37*	.37*	.39*	.40*	.56*	.54*	.92			
14. CDDQ total	.50*	-.49*	-.50*	.69*	.52*	.45*	.80*	.89*	.85*	.76*	.88*	.88*	.59*	.96		
15. AIMS	.06	-.05	.04	.01	.21*	.32*	.12	.11	.20*	.15*	.12	.20*	.06	.19*	.81	
16. Gender	-.09	.01	.05	.24*	-.24*	.16*	.02	.08	.03	.04	.05	-.00	.10	.08	.00	
17. Income Sport	.09	-.06	-.12	.02	.02	-.19*	.03	.03	.00	-.05	-.11	-.12	-.14*	-.04	-.20*	.07

Note. * Significant at the .05 level.

RM(Mod) = Lack of motivation (Modified), RI(Mod) = Indecisiveness (Modified), LP = Lack of knowledge about the process, LS = Lack of knowledge about the self, LO = Lack of knowledge about occupations, LA = Lack of knowledge about how to access additional sources of information, IU = Unreliable information, II = Internal conflicts, IE = External conflicts, and AIMS = Athletic Identity Measurement Scale. Income Sport is a dichotomous variable indicating whether the sport has potential for high income.

Reliability coefficients for the subscales are presented in italics along the diagonal.

The prediction that AIMS scores would be positively related with career decision difficulties was supported. There was a small but significant relationship between the total difficulties score and AIMS ($r = .19, p < .05$), and there were also significant correlations between AIMS scores and five of the ten difficulty subscales, most notably with Dysfunctional myths. The item from this subscale having the highest correlation with AIMS was “I believe that successful athletes always find good jobs when their competition days are over.” ($r = .27, p < .05$). Those with higher athletic identity were also more likely to have difficulties associated with general indecisiveness ($r = .21, p < .05$), more likely to lack knowledge about occupations ($r = .20, p < .05$), more likely to experience internal conflicts about their career choice ($r = .20, p < .05$), and more likely to lack knowledge about where to get additional information ($r = .15, p < .05$). However, higher AIMS scores did not relate to motivation, lack of knowledge about the decision process or about the self, unreliable information, external conflicts, or any of the decision status variables – undecidedness, satisfaction with decision status, or confidence in decision.

Gender differences were examined by conducting a one-way ANOVA with AIMS and the CDDQ subscales as dependent variables. The only differences which emerged for these athletes were on the Lack of Readiness subscales. Males were more likely to have difficulties associated with lack of motivation, $F(1, 223) = 12.68, p < .05$, and an adherence to dysfunctional myths about sports and careers, $F(1, 223) = 12.68, p < .05$, while females were more likely to have difficulties related to general indecisiveness, $F(1, 222) = 8.25, p < .05$. There was no difference between males and females on their level of athletic identity as measured by the AIMS, $F(1, 216) = 0.0, p > .05$.

A one-way ANOVA was also conducted to determine differences in athletic identity and career decision difficulties associated with types of sport. Athletes in sports that had potential for high incomes had higher AIMS scores, $F(1, 216) = 9.11$, $p > .05$, were more likely to adhere to dysfunctional myths, $F(1, 222) = 8.46$, $p > .05$, and experienced more conflicts with others about their career choice, $F(1, 220) = 4.26$, $p > .05$. Results of the ANOVA are presented in Table 3.

Summary of Mean Differences in CDDQ and AIMS scores between Genders and Potential Earning Capacity of Sport

Scale	Mean		<i>F</i>	Mean		<i>F</i>
	Female <i>n</i> = 110	Male <i>n</i> = 115		High Income <i>n</i> = 87	Low Income <i>n</i> = 138	
RM (Mod)	3.11	3.87	13.56*	3.461	3.53	.12
RI (Mod)	5.22	4.33	13.35*	4.73	4.79	.06
RD	2.98	3.48	5.85*	3.61	3.00	8.46*
LP	4.20	4.27	.06	4.16	4.29	.20
LS	4.02	4.34	1.54	4.13	4.22	.13
LO	4.07	4.20	.21	4.13	4.14	.00
LA	3.64	3.77	.28	3.83	3.63	.62
IU	3.44	3.61	.58	3.75	3.38	2.77
II	3.84	3.84	.00	4.08	3.70	3.12
IE	2.47	2.79	2.26	2.92	2.45	4.48*
AIMS	37.40	37.41	.00	38.87	36.47	9.14*

Note. * Significant at the .05 level.

RM(Mod) = Lack of motivation (Modified), RI(Mod) = Indecisiveness (Modified), RD = Dysfunctional myths, LP = Lack of knowledge about the process, LS = Lack of knowledge about the self, LO = Lack of knowledge about occupations, LA = Lack of knowledge about how to access additional sources of information, IU = Unreliable information, II = Internal conflicts, IE = External conflicts, AIMS = Athletic Identity Measurement Scale.

Comparisons against Benchmark

In order to test hypothesis 3, ANOVAs were conducted on athletes' and non-athletes' CDDQ measures. As noted earlier, variations from the original scale on measures of Dysfunctional Myths precluded comparisons being made on this score. Results presented in Table 4 failed to support hypothesis 3. Athletes differed from non-athletes only in that they reported lower levels of motivation to make a career decision, $F(1,496) = 8.00, p < .05$.

Comparisons between Career Decision Difficulties of Athletes and Non-athletes

CDDQ Subscale	Mean (SD)		F	p
	Athlete ^a	Non-Athlete ^b		
Lack of Motivation (Modified)	3.50 (1.5)	3.08 (1.7)	8.00	.01
Indecisiveness (Modified)	4.77 (1.8)	4.80 (2.0)	.04	.85
Lack of information about the process	4.24 (2.0)	4.24 (2.3)	.00	.98
Lack of information about the self	4.19 (1.9)	3.99 (1.9)	1.33	.25
Lack of information about occupations	4.14 (2.0)	4.32 (2.1)	.94	.33
Lack of information about additional sources	3.70 (1.9)	3.77 (2.1)	.12	.73
Unreliable information	3.53 (1.6)	3.52 (1.8)	.00	.99
Internal conflicts	3.68 (1.5)	3.72 (1.6)	.11	.74
External conflicts	2.63 (1.6)	2.71 (1.9)	.27	.60

Note. ^a n = 226, ^b n = 272

Critical value of p = .05.

Discussion

The idea that athletes would demonstrate identity foreclosure was generally not supported by these data. The indicator of identity foreclosure used in this study represents only one facet of this construct. Nevertheless, failure to explore a range of career options is reported to be one of the significant detrimental behaviours associated with foreclosure. More than three-quarters of the young athletes in this sample were open to considering two or more career options, many of these in fields that were completely unrelated to sporting interests. The only athletes to be focused exclusively on a professional sporting career were three males from high prestige or

potentially high income sports on the international stage – baseball, swimming, and basketball.

Athletic identity was shown to have small but significant relationships with five of the ten categories of decision difficulties measured in this study. While it appears that there are some areas of decision-making which are unaffected by issues associated with athletic identity, by using a multi-dimensional scale such as the CDDQ, it has been possible to find specific areas where difficulties might occur. The career difficulty most strongly related to athletic identity was the adherence to dysfunctional myths, particularly the notion that athletic success will automatically lead to post-sporting success. This belief may be valid for some, as the determination and dedication required to forge a successful sporting career are beneficial in subsequent non-sporting endeavours. However, if athletes think that work success will come without any effort or planning on their part, then such a belief is dysfunctional. Another myth related to levels of athletic identity was the idea that thinking about non-sporting career options would distract from athletic commitment and performance. This myth reflects concerns about time constraint and a focus on the present, issues that have previously been identified by many others, including McPherson (1980), Brown et al. (2000), and Martens and Lee (1998).

The exploration of dysfunctional myths among athletes is one area that requires further research. In a separate phase of the longitudinal evaluation of the ACE program, interviews were conducted at the AIS in Canberra and the Queensland Academy of Sport in Brisbane with 18 elite athletes (11 males, 7 females, aged from 15-25, representing team and individual sports), five male coaches, and four parents. Information obtained from these interviews (not reported) suggests that athletes are not necessarily as comfortable with their career prospects as our survey data indicate.

Some of them feel that they have had to put their careers “on hold” while they explore the possibilities of sporting success. In which case, their lack of motivation to tackle career issues could have short term benefits in the form of greater athletic achievement. This question needs further investigation, perhaps in light of predictions generated from the theory of time discounting in relation to career decision making (Hesketh, Watson-Brown, & Whiteley, 1998; Saunders & Fogarty, 2001). Further work also needs to be directed at the measurement of dysfunctional myths. One possibility is to treat dysfunctional myths as an index rather than a scale (Diamantopoulos & Winklhofer, 2001; MacCallum & Browne, 1993; Nunnally & Bernstein, 1994), in which case the items remain the same but are handled differently from a psychometric point of view. A further possibility is that the construct is genuinely multidimensional and that further items need to be developed to capture the full range of dimensions. We favour this option because we believe that the whole question of what constitutes a dysfunctional myth for elite athletes needs to be addressed. It is possible that whether beliefs are dysfunctional depends on the nature of the sport (professional versus amateur), the skill of the athletes, and other circumstances surrounding their lives. We are investigating this construct in ongoing work with the AIS.

Other decision difficulties positively associated with athletic identity for this sample of athletes were general indecisiveness, lack of knowledge about occupations, the experience of internal conflicts about their career choice, and lack of knowledge about how to get additional information. The measure of indecisiveness in the CDDQ represents concerns with fear of failure and a tendency to rely on others to confirm and support their decision-making. The association between indecisiveness and athletic identity accords with findings on athletes’ dependent and deferent decision-

making styles (Blustein & Phillips, 1990), and dependency due to a structured lifestyle (Martens & Lee, 1998). Ironically, a potential risk of the ACE program is that it could inadvertently exacerbate this problem by providing over-directive support and advice. However, this has been recognised as an issue and ACE's philosophy is to ensure that program services are offered in a way that promotes self-responsibility rather than encouraging increased dependency (J. Flanagan, personal communication, July 28, 2003).

Those with high athletic identity also lacked knowledge about occupations and were less likely to know where to obtain additional information to help them make decisions about their careers. These findings have implications for the manner in which career advisory services are presented to athletes. There is a need to promote the services to those most likely to have high athletic identity, that is, young males who are involved in potentially high income sports (Albion & Fogarty, 2003). In order to overcome any perceived barriers of such services being a distraction, it is also essential that delivery be timely and efficient. ACE provides integrated individualised plans, encouraging athletes to take a broader and longer life-view, and to understand the transferability of the skills they acquire as a sportsperson (Petitpas, Champagne, Chartrand, Danish, & Murphy, 1997).

A fourth area of difficulty associated with athletic identity was internal conflicts about occupations. For some, their internal conflict was associated with time constraint, an issue which has been identified by many researchers, including McPherson (1980), Brown et al. (2000), Martens and Cox (2000), and Martens and Lee (1998), while for others it was an approach-approach conflict brought about by having a number of preferred options from which to select. Many had interests in a variety of areas, including sport, and found it difficult to choose among them.

In general, results did not support the third hypothesis, that there would be differences between athletes and non-athletes on their levels of career decision-making difficulties. Of the nine CDDQ subscales compared in this study, there was only one on which athletes reported higher levels of difficulties – Lack of Motivation. Athletes' level of career knowledge was similar to that of their non-athlete counterparts. This finding was somewhat unexpected as previous studies indicated that athletes were less likely to engage in career exploration than non-athletes (Martens & Lee, 1998). It may be that specifically targeted career assistance, such as individual career planning and study program management, provided to athletes through ACE is responsible for this parity of outcomes. This assumption will be explored in future studies. Levels of difficulties associated with barriers and conflicts were also the same for both groups. While it might be argued that the barriers and conflicts athletes face in their career decision making are different from the barriers and conflicts faced by other adolescent career deciders, it appears that the overall level of difficulties they face is the same. Results also serve to reinforce the need to include both attitude and knowledge measures in the assessment of career behaviour (Creed & Patton, 2003).

To date, most research into student athletes has been in the context of the American college system, a structure quite different from Australian educational and sporting environments, and covering a slightly older age group than this high school sample. The present study therefore provides some interesting insights into the nature and extent of young Australian athletes' career decision difficulties, a topic on which there has been little or no prior research. The data presented in this paper were collected in phase one of a 5-year evaluation of the ACE program. In future research we intend to test hypotheses relating to the effect of the ACE program on variables

included in this study. Results from these subsequent studies should help us determine whether or not we are ahead on points in the race to help athletes better achieve their life goals.

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Theory and Practice

This section is designed as a brief professional review of the article. It provides relevant study questions and answers for readers to test their knowledge of the article.

Why is it important to measure both attitude and knowledge aspects of decision-making when assessing career-related behaviour?

Answer: The factors that impact on career behaviour are multi-dimensional. It is not enough for career deciders to have information about study and career options, they must also be motivated to use that information. Similarly, those who are motivated to make a choice, but do not have access to the necessary information will also have a greater level of difficulty in making a career choice. Results of the current study show that a global measure of career decision-making difficulties may result in over-identification of problems, if it is assumed that difficulties in one area imply difficulties in all areas. A single dimension approach may also lead to specific problem areas remaining unidentified should the global measure of difficulties be low.

How are the problems of athletic identity and identity foreclosure being addressed by the Athlete Career and Education program?

Answer: Athletes are provided with individual counselling and group sessions to help them expand the narrow focus that can be associated with identification as an athlete, by giving them personal skills and knowledge, and encouraging them to adopt broader goals and a more balanced view of life. For more information about the ACE program, go to their website at <<http://www.ais.org.au/ace/>>.

Which athletes are likely to have difficulties making career choices?

Answer: The study has shown that athletes who identify most strongly with their role as a sportsperson are most likely to experience problems in a range of career decision-

making areas, particularly in the adherence to dysfunctional myths about careers.

Other research has shown that certain groups of athletes, namely young males in high-profile or high-income sports, are more likely than others to have a high athletic identity, making them more vulnerable than others to decision difficulties