

EGO-IDENTITY STATUS
IN UNIVERSITY ATHLETES

by

Gary Mangel

B.A., McGill University, 1994

THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS

in the
Department of Psychology

© Gary Mangel 1997

SIMON FRASER UNIVERSITY

November 1997

All rights reserved. This work may not be
reproduced in whole or in part, by photocopy
or other means, without the permission of the author.



National Library
of Canada

Bibliothèque nationale
du Canada

Acquisitions and
Bibliographic Services

Acquisitions et
services bibliographiques

395 Wellington Street
Ottawa ON K1A 0N4
Canada

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence

Our file Notre référence

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

0-612-24201-3

Canada

APPROVAL

NAME: Gary Mangel
DEGREE: Master of Arts (Psychology)
TITLE OF THESIS: Ego-identity status in university athletes

EXAMINING COMMITTEE:

Chair: Dr. Roger Blackman, Ph.D.

Dr. Robert ~~Loy~~, Ph.D.
Associate Professor
Senior Supervisor

Dr. David Cox, Ph.D.
Associate Professor

Dr. Susan Butt, Ph.D.
Associate Professor
Department of Psychology, University of British Columbia
External Examiner

Date Approved: Nov 21/97

Abstract

An exploratory study was conducted to examine identity status scores and athletic aspirations among varsity athletes at Simon Fraser University. Both male and female athletes representing all four years of athletic eligibility and all ten varsity sports were studied. Questionnaires were mailed to the entire population of university athletes, with 102 participants responding by completing and returning the Extended Objective Measure of Ego-Identity Status, in addition to a demographics form. The demographics form revealed that many athletes from certain varsity sports (e.g., football, wrestling) hold unrealistic expectations with regards to their future athletic performance and aspirations. The identity status data revealed that athletes from revenue-producing sports scored higher on the ideological foreclosure subscale than athletes from nonrevenue-producing sports. These results are consistent with the findings from previous studies of American varsity athletes. The limitations and implications of the study are discussed.

Acknowledgements

Special thanks to Bob Ley and David Cox for their tremendous support and encouragement over the last year. Additional thanks must go out to the following people: Mike Dinning for providing me with the participants for my study; Elizabeth Michno, for her tireless efforts in the microlab; Mike Maraun, for statistical assistance; the varsity athletes at SFU who took the time out of their summers to complete my questionnaire; many of my psych 250 and 306 students, who often convinced me not to quit; and Fred Baral, a complete stranger who helped me stuff envelopes on a dreary day in June.

There is no way I would even have made it this far if not for the support, encouragement, and laughter provided by the five greatest classmates in the world: Jocelyn, Darek, Corina, Aggie and Sophie. Special thanks as well to my friends and family for always believing in me.

Table of Contents

| | |
|-------------------|-----|
| Approval | ii |
| Abstract | iii |
| Acknowledgements | iv |
| Table of Contents | v |
| List of Tables | vi |
| List of Figures | vii |
| Introduction | 1 |
| Method | 12 |
| Participants | 12 |
| Material | 12 |
| Procedure | 14 |
| Results | 16 |
| Discussion | 20 |
| References | 32 |
| Tables | 36 |
| Figures | 41 |
| Appendix A | 43 |
| Appendix B | 44 |
| Appendix C | 45 |
| Appendix D | 46 |

List of Tables

| Table | | Page |
|-------|---|------|
| 1. | Identity Status Classification | 36 |
| 2. | Component Loadings for Single Variables | 37 |
| 3. | Frequency Distribution of Ideological Identity Status | 38 |
| 4. | Frequency Distribution of Interpersonal Identity Status | 39 |
| 5. | Cell Means for Diffusion Scores: Two-Way Interaction | 21 |
| 6. | Cell Means for Moratorium Scores: Three-Way Interaction | 23 |
| 7. | Mean Identity Status Scores for each Varsity Team | 40 |

List of Figures

| Figure | | Page |
|--------|-----------------------------|------|
| 1. | Component Loadings | 41 |
| 2. | Single Category Coordinates | 42 |

Ego-Identity Status in University Athletes

The impact of sports in our modern society, and hence its relevance as a topic of scientific study, cannot be understated. North American culture in particular places an extremely strong emphasis on athletic achievement, participation and awareness for individuals of all ages. This involvement may consist of both active and/or passive roles, and thus encompasses a wide variety of potential behaviors: the channel clicking of the somewhat lazy "couch potato", the sports page reading and friendly debating of the sociable "armchair quarterback", and finally the daily athletic rituals and compulsions of the health conscious 'cross-trainer. In a single day, it is possible to think about, read about, listen to, watch, discuss, play, and even taste sports. In short, the athletic domain invades nearly every aspect of daily life. This notion is most eloquently summarized by Eitzen (1984):

Sport is such a pervasive activity in contemporary America that to ignore it is to overlook one of the most significant aspects of society. It is a social phenomenon which extends into education, politics, economics, art, the mass media, and even international diplomatic relations. Involvement in sports, either as a participant or in more indirect ways, is almost considered a duty by many Americans. (p. 9)

Perhaps as a result of this North American obsession with sports and athletics, elite level athletes have come to embody a privileged, admired, and even idolized subgroup of society. Their further inclusion in the psychological literature is thus more than justified.

With the continued growth of sports as a powerful agent in modern society, the past 30 years has additionally seen a proliferation of research devoted to the concept of identity and its relevance to a wide variety of populations. Identity status and development have been studied in middle and late adolescents (e.g., Campbell, Adams, & Dobson, 1984; Kamptner, 1988), college youths (e.g., Dellas & Jernigan, 1990; Waterman & Goldman, 1976), non-college youths (e.g., Morash, 1980; Munro & Adams, 1977), and adults (e.g., Freilino & Hummel, 1985; Stephen, Fraser, & Marcia, 1992). In addition, several researchers have looked for differences in identity status and formation across gender (e.g., Archer, 1989; Bilsker, Schiedel, & Marcia, 1988) and cultures (e.g., Rotheram-Borus, 1989; Streitmatter, 1988). Finally, some studies have focused on measuring identity status in special populations, most recently an investigation by Norgaard (1994) on former professional dancers.

University athletes are another special population for whom the study of identity status and development might be particularly interesting and relevant, as they are a group which is characterized by high levels of commitment to a specific activity which is often closely linked to personal identity. Unfortunately, however, there has been very little research done with this group. The present author was only able to locate four studies dealing with the identity status and/or identity development of university athletes (Good, Brewer, Petitpas, Van Raalte, & Mahar, 1993; Murphy, Petitpas & Brewer, 1996; Petitpas, 1981; Williams, 1991), two of which (Petitpas, 1981; Williams, 1991) were unpublished doctoral dissertations. It appears that more research is needed in order to further our understanding of issues related to identity in university athletes. The present study is an attempt to contribute to the existing knowledge in this area.

Much of the contemporary work on identity status and development has been conducted by Marcia and his colleagues (see Marcia, Waterman, Matteson, Archer, & Orlofsky, 1993). In brief, Marcia's work has defined and validated four distinct identity classifications - identity achievement, moratorium, foreclosure, and identity diffusion - each of which can be distinguished based on the presence and/or absence of two processes: exploration and commitment. These processes refer to the extent to which an individual has engaged in active *exploration* of alternatives in regards to a variety of life domains such as occupation, religion and intimate relationships prior to any specific *commitment* in these areas. Individuals in the identity achievement group have demonstrated both exploration and commitment in regards to occupation and ideology. Those in the moratorium status have begun the exploration process but have yet to commit to any specific career choice or belief system. In contrast, "foreclosures" have committed in a wide variety of life domains without actively exploring any alternatives in these areas, often superficially adopting the beliefs and choices of their parents. Finally, individuals in the diffuse category demonstrate an absence of both processes - they have neither explored nor committed to any alternatives (see Table 1).

There are two primary methods used to measure identity status in a given individual or population. Marcia et al. (1993) have developed an extensive and elaborate structured interview, along with detailed reliable scoring criteria, for this purpose. Of course, there are advantages and disadvantages to using this technique. On the one hand, the interview is able to capture and convey a greater diversity of human experience by allowing the interviewer to probe and follow-up the subject's responses (Craig-Bray & Adams, 1986). However, the interview has quite a lengthy administration and scoring time, making the collection of data on large numbers of

subjects a rather ominous task. Further, there is potential for scoring and coding errors when using the interview. Finally, the interview relies heavily on subjective coder inferences of interviewers' responses (Craig-Bray & Adams, 1986). As a result of these limitations, a self-report instrument called the Objective Measure of Ego-Identity Status (OM-EIS) has been developed (Adams, Shea & Fitch, 1979; Grotevant & Adams, 1984; later revised as the EOM-EIS: Adams, Bennion, & Huh, 1989) in order to provide a quick and objective measure of identity status. Marcia et al. (1993) have themselves commented on the use of this technique by saying:

Where a screening measure, prior to ISI [identity status interview] administration, is desired, where continuous scores are needed, or where one wants measures on a large group of subjects, and discarding some is no problem, then the EOM-EIS is the measure to choose. (p.18)

Based on the above comments and the desire to employ a large number of subjects, it was decided that the EOM-EIS would be used to assess identity status in the present study.

Previous research on university athletes in general suggests that it would be interesting to examine a variety of features of this population (e.g., athletic aspirations, type of sport, year of eligibility) in order to discover how these factors relate to scores on the four identity statuses described above. For example, several studies have reported that many college athletes may hold unrealistic aspirations and expectations concerning their capacity for attaining athletic careers. In particular, Blann (1985) found that 28% of male high-level athletes (participants in NCAA

Division I varsity sports) and 10% of male low-level athletes (participants in NCAA Division III varsity sports) indicated (on a demographics questionnaire) that they intended to secure professional status in sports. Similarly, Kennedy and Dimick (1987) reported that 48% (66% of the black athletes, 39% of the white athletes) of college football and basketball players in their sample *expected* (not wished or hoped) to play professional sports. Further, Lee (1983) found that, even at the high school level, 36% of black and 14% of white starting athletes anticipated a professional career in sports. These findings become especially relevant when it is considered that only a very small minority of university athletes (somewhat less than 2%) actually go on to participate in professional sports (Harris & Eitzen, 1978; Ogilvie & Howe, 1986), and of those, "the 10-year veteran is the exception rather than the rule" (Nelson, 1983). In short, the literature clearly indicates that some university athletes have a tendency to overestimate the probability of attaining professional athletic status in their sports.

In addition to, and likely as a partial function of the fact that many university athletes appear to hold an unrealistic goal to achieve professionalism, several studies have shown that university athletes demonstrate a reduced level of career and educational maturity relative to their nonathlete counterparts (Blann, 1985; Kennedy & Dimick, 1987; Sowa & Gressard, 1983). In the most recent of these studies, Kennedy and Dimick (1987) observed this pattern with male varsity basketball and football players, suggesting that athletes participating in revenue-producing sports may be especially at risk for delayed vocational development. Blann (1985), in contrast, found similar developmental delays with male underclass (freshman and sophomore), but not upperclass (junior and senior) athletes, suggesting that male athletes may become more attentive to their educational and career plans and more realistic about the likelihood of an athletic career

after their sophomore year. An earlier study by Sowa and Gressard (1983) revealed that athletes in general have difficulty in formulating well-defined educational and career plans, perhaps as a function of the tremendous amount of time required for athletic and related activities. In a related study, Yiannakis (1981) reported that college athletes spent the majority of their waking hours daydreaming about athletics - competition, practice, winning, and "the next game" - leaving little time to explore other domains or interests. These studies converge on the notion that many university athletes seem to exhibit delayed vocational and/or educational growth, perhaps due to time constraints associated with the athletic role.

The conclusions from these two lines of research can be linked theoretically to the previously mentioned investigations on identity status. For example, identity theory would suggest that the low levels of career and educational maturity exhibited by university athletes may be a partial function of unresolved identity issues. In other words, during their adolescent and teenage years, university athletes may prematurely "foreclose" on their athletic career and thus may not have the opportunity or motivation to engage in active exploration of alternative occupations and ideologies. Consistent with this proposition was Marcia's (1966) comment that anticipation of an athletic career, combined with strong commitment to the athlete role, may lead to role foreclosure. Perhaps even more noteworthy is the reasonable speculation that the "failures", those athletes who anticipate an athletic career and ultimately fall short, may be left in a state of "identity diffusion" at the time of graduation. Similar thoughts are expressed by Petitpas, Finley and Vettero (1985) in stating that failure to reach an expected athletic career may hinder the pursuit of a personal identity. Chartrand and Lent (1987) have additionally suggested that overidentification with the athlete role may be viewed as a form of premature role

foreclosure. Further, Petitpas and Champagne (1988) have remarked that an overinvestment of energies in sport may impede the search for personal identity. Finally, Adler and Adler (1991) have remarked that the sheer number of hours spent by university athletes in athletic activities may threaten the establishment and/or maintenance of other non-athletic identities. It is thus clear that several researchers have already suggested a potential link between the literature on university athletes and the concept of identity status.

Among these theorizations, Marcia's (1966) comments merit further elaboration in relation to the present study. To reiterate, a foreclosure is said to have occurred when a commitment to an activity (e.g., a particular sport) or role is made prematurely and without sufficient exploration of other activities, interests, or roles. Generally speaking, foreclosure is likely to be caused by the demands of the environment (e.g., parental pressure); it may, however, be self-induced - a function of an individual's *choice* to avoid exploration of alternatives. For example, elite athletes may decide during their adolescence **not** to seek success in academic activities or other career opportunities, especially if they have previously been rewarded for athletic-related endeavors. The benefits - a sense of security and competence - are gained at the expense of identity evolvment. This behavior is referred to by Baltes and Baltes (1980) as *selective optimization*. In discussing this phenomenon in relation to athletic commitment, Danish, Petitpas, and Hale (1993) point out that neither selective optimization nor identity foreclosure are in themselves "harmful" conditions, in the sense that many athletic careers necessitate an undivided commitment by the athlete. It is only when they impede further exploration by the athlete that these conditions become problematic. Regardless of whether it is viewed positively

or negatively, identity foreclosure seems to be a phenomenon that merits further exploration within the university athlete population.

The above-mentioned speculations and theorizations have been partially addressed in two recent studies. The first, by Good et. al (1993), replicated the results of Petitpas (1981) in finding that upperclass university athletes were significantly more foreclosed than their nonathlete peers. No differences were found between male and female athletes in terms of identity foreclosure. The second study (Murphy et. al, 1996) revealed that identity foreclosure was inversely related to career maturity, that varsity athletes were more foreclosed than nonvarsity athletes, and that athletes in professional revenue-producing sports (e.g., basketball, football, and ice hockey) had significantly higher foreclosure scores than athletes in nonrevenue-producing sports (e.g., field hockey, swimming, rowing). Once again, no gender differences were detected.

There are a number of limitations to these two studies. The first is that both used the Foreclosure subscale of the Objective Measure of Ego-Identity Status (OM-EIS; Adams, Shea & Fitch, 1979) to measure foreclosure in university athletes. A newer, expanded version of this scale is now available - the Extended Objective Measure of Ego-Identity Status (EOM-EIS; Adams, Bennion, & Huh, 1989) - which not only has more items, but also taps additional identity domains, such as philosophical life style, friendship, relationships, sex roles and recreational choices (see Method section below). In the previous measure, *six* items constitute the foreclosure score while the newer version uses *sixteen* foreclosure items. Another limitation is that none of these studies looked at scores on the other three identity statuses (identity achievement, moratorium, and identity diffusion); instead, they focused exclusively on identity foreclosure. A third limitation is that certain factors which may influence identity status scores were either

ignored (e.g., type of team, year of eligibility) or had their interactions with other factors ignored. For example, Murphy et al. (1996) found no gender differences in athlete foreclosure scores but did not look at the *interaction* of gender with other factors. Another unrelated limitation of the Murphy et al. (1996) study in particular is the fact that 86.3% of the participants represented membership on only two athletic teams (football and crew). A final limitation of all of the previous research is that identity status in *Canadian* university athletes has never been studied - all four studies sampled exclusively from *American* university athletes.

The present study is an attempt to address the above limitations. First, the EOM-EIS will be used to measure identity status. Second, scores on all four identity statuses will be collected and analyzed. Third, the study will include factors that have never been considered in the previous research (e.g., type of team and year of eligibility) and will look at all interactions between the factors. Fourth, rather than selecting the majority of subjects from one or two teams, this study will sample athletes from a variety of different teams. Finally, the sample will include only Canadian, rather than American, university athletes.

In terms of predictions, it is difficult to anticipate or forecast the results as this research is very much exploratory. The present study is the first to use the expanded version of the Adams et al. (1989) scale with university athletes; additionally, it represents the first time that three of the identity statuses (identity achievement, moratorium, and identity diffusion) will be scored and explored with this population. Further, this study represents the first time that identity status and development have been studied in *Canadian*, rather than *American*, university athletes. Despite the lack of prior research in these areas, some predictions can be ventured.

One hypothesis is that, for revenue-producing sports, lowerclass (first and second year) athletes will score higher than upperclass (third and fourth year) athletes on the *foreclosure* and *identity diffusion* sub-scales. A complementary prediction is that the upperclass athletes will score higher on the *moratorium* and *identity achievement* subscales. These two predictions share the common assumption that the closer a university athlete from a revenue-producing sport gets to graduation, the greater will be the realization or acceptance that he/she is unlikely to make it to the professional ranks in his/her sport. This awareness is likely to promote greater exploration (across many identity domains) in the final years of eligibility, thereby producing higher scores on the identity statuses that require exploration (i.e., identity achievement and moratorium). In contrast, an underclass athlete from a revenue-producing sport might either be unaware of, or unconcerned with the difficulty involved in achieving the professional ranks in his/her sport. This type of attitude would imply a much lesser degree of exploration, thereby producing higher scores on the non-exploratory identity statuses (i.e., foreclosure and identity diffusion).

Independent of these or any other predictions, it is hoped that this study will contribute to the existing knowledge on identity status and development in university athletes. The main purposes of the study are to provide some preliminary data on *Canadian* university athletes and to investigate any differences in identity status scores associated with a variety of demographic and athletic variables. Thus, one of the statistical tools will be the non-linear canonical correlation, a technique designed to provide a measure of relation between two *sets* of variables. The first set will include a number of athletic and demographic variables (e.g., type of sport, year of eligibility, athletic aspirations, scholarship status), while the second set will include the continuous scores on the four identity status types. This procedure will expose the dominant

patterns in the data, hopefully revealing specific "types" of athletes (e.g., "high-aspiring underclass athletes in revenue-producing sports with high foreclosure and low achievement scores"). This analysis will then be combined with tests designed to reveal specific differences in diffusion, foreclosure, moratorium, and achievement scores across gender, type of sport (revenue-producing versus nonrevenue-producing) and year of eligibility (upper versus lowerclass).

Method

Participants.

A copy of the questionnaire was mailed to the entire population of varsity athletes (301 students) at Simon Fraser University. It should be noted that Simon Fraser is the only Canadian University to participate in the NAIA¹ (National Association for Intercollegiate Athletics) and one of the few Canadian universities to award athletic scholarships. The university is well known in Canada and the United States for several of its distinguished athletic programs (e.g., football, women's basketball, track and field, swimming)². In total, 34% of this population ($N=102$ athletes) responded to the study. Fifty eight (57%) of these respondents were female while 44 (43%) were male. The mean age of participants was 20.8 years and the mean grade point average was 2.84. At the time of participation, all participants were full time students and members of a varsity sport team at Simon Fraser University. The following teams were represented in the study, with the number of participants in parentheses: men's basketball ($n=4$), football ($n=17$), golf ($n=2$), soccer ($n=4$), swimming/diving ($n=3$), track and field ($n=5$), and wrestling ($n=9$); women's basketball ($n=6$), field hockey ($n=8$), soccer ($n=10$), softball ($n=7$), swimming/diving ($n=4$), track and field ($n=11$), volleyball ($n=7$), and wrestling ($n=5$).

Material.

¹ The NAIA is comprised of 364 colleges and universities from all regions of the United States. In terms of athletic excellence and performance, the NAIA is generally viewed as a "step below" the NCAA (National Collegiate Athletic Association). In addition, it has been suggested that NAIA level institutions are characterized by a somewhat different philosophy in regards to athletic participation (i.e. less concerned with recruiting elite athletes and winning national championships and more concerned with the overall benefits of sport participation).

² Simon Fraser University has enjoyed a great deal of success in NAIA competition. In 1997, it captured the NAIA Sears Directors' Cup, presented to the best overall school in the entire NAIA. Over the past 25 years, SFU has won 32 National titles, more than any other NAIA institution.

Each participant completed a demographic form and a single questionnaire. The demographic form comprised two sections. The first section included questions which dealt with objective demographic information such as age, sex, team/sport, cumulative G.P.A., year of eligibility, and scholarship status. The second section included questions designed to reveal the highest level of competition achieved by the athlete in the past five years, the athlete's long-term goals and aspirations in his/her sport, the subjective likelihood of achieving those goals, and the athlete's plans to incorporate his/her sport as a recreational or leisure activity in the future. (See Appendix A for a copy of the demographic form).

The single questionnaire used was the Extended Objective Measure of Ego-Identity Status (EOM-EIS; Adams et al., 1989), which is designed to provide two scores for each of the four distinct identity statuses outlined and described above. The two scores for each status reflect the distinction between *ideological* identity and *interpersonal* identity. Thus, each questionnaire produces an achievement, moratorium, foreclosure and diffusion score for *ideological* identity as well as an achievement, moratorium, foreclosure and diffusion score for *interpersonal* identity. It is also possible to provide a single continuous score for each identity status by summing across the ideological and interpersonal subscale scores (c.f., Blustein & Phillips, 1990). Finally, scoring the EOM-EIS also produces two identity status classifications: one for ideological identity and one for interpersonal identity.

The EOM-EIS has 64 items, with responses made on a 6-point Likert-type scale ranging from *strongly agree* to *strongly disagree*. Each identity subscale consists of 16 items, tapping 4 ideological domains (occupation, religion, politics, and philosophical life style) and 4 interpersonal domains (friendship, relationships, recreation, and sex roles). For example, the

following items appear in the occupation domain: "It took me a while to figure it out, but now I really know what I want for a career." (Identity Achievement); "I just can't decide what to do for an occupation. There are so many possibilities." (Moratorium); "My parents decided a long time ago what I should go into for employment and I'm following through with their plans." (Foreclosure); "I'm not really interested in finding the right job, any job will do. I just seem to flow with what is available." (Identity Diffusion).³

Adams et al. (1989) report acceptable levels of face (96.5% agreement), predictive, construct, and concurrent validity for the EOM-EIS. They also report that a factor analysis of the items produced the expected theoretical distinctions between the identity statuses. With regard to content validity, the items were explicitly derived from identity formation theory and research. In addition, the identity subscales have adequate to excellent internal consistency (Diffusion, $\alpha = .68$; Foreclosure, $\alpha = .90$; Moratorium, $\alpha = .73$; and Identity Achievement, $\alpha = .66$; Blustein, Devenis, & Kidney, 1989) and excellent stability (with correlation coefficients that range from .82 to .90; Blustein & Phillips, 1990).

Procedure.

After a list of addresses was received from the athletic department, questionnaires were mailed out to the entire population of varsity athletes at Simon Fraser University. Each athlete received a package which included a cover letter from Mike Dinning, Director of Athletics at SFU (see Appendix B for a copy), an introductory letter from the present author (see Appendix C for a copy), a consent form (See Appendix D for a copy), the demographics form, the EOM-EIS,

³ A copy of the EOM-EIS can be obtained from Dr. Gerald R. Adams, Department of Family Studies, University of Guelph, Guelph, Ontario, Canada, N1G 2W1.

and an addressed, postage-paid return envelope. The mailing took place in June, 1997 and the athletes were asked to return the completed consent form, demographics form and questionnaire by July 31, 1997.

Results

The preliminary analyses in this study were conducted using a non-linear canonical correlation procedure called OVERALS. In a recent article, Blustein and Phillips (1990) provide the following clear and concise description of canonical analysis:

Canonical analysis provides a means of assessing the nature and extent of relations between two sets of variables. Specifically, two differentially weighted linear composites of the two sets of variables are calculated and thereby yield the maximum degree of association that is referred to as the *canonical correlation*. In addition, a canonical analysis produces a limited number of canonical roots, which facilitate the interpretation of the findings. Also derived from each canonical root, canonical weights and structure coefficients provide a means of interpreting the nature of the relations among the variables. (p. 162)

The canonical approach was considered an appropriate choice due to the exploratory nature of the present study. In general, it was thought that the OVERALS procedure would reveal some interesting patterns in the data.

In the present study, the first canonical set included four variables, each of which was related to athletic background: REV, which indicated whether the athlete was a member of a revenue-producing sport (basketball, football, golf and soccer) or a nonrevenue-producing sport (field hockey, softball, swimming, track and field, volleyball and wrestling); UP, which indicated whether the athlete was of upperclass (third and fourth year of eligibility) or lowerclass (first and

second year of eligibility) status: AS, which indicated whether the athlete was or was not on athletic scholarship; COMB, which reflected the athlete's aspirations in his/her sport. It is important to note that the present author created COMB by combining four responses from the demographic form (e.g., highest level of participation in the past five years, plan to compete in sport beyond university, highest level of participation anticipated, and likelihood of achieving anticipated level). The variable comprised nine categories, with category one indicating "professional aspirations with high perceived likelihood of success" and category nine indicating "university aspirations, already achieved".

The second canonical set also included four variables, each of which represented scores on the four identity status types. More specifically, the variable labels DIF1, FOR1, MOR1, and ACH1 were used to indicate the level of diffusion, foreclosure, moratorium and achievement endorsed by the athlete. For each variable, the continuous scores were broken down into five categories, with category one indicating a score in the lowest 20% and category five indicating a score in the highest 20% on a particular status type. All of the variables in both sets were treated as ordinal, with the exception of COMB which was entered as single nominal.


The purpose of the OVERALS analysis was to determine the nature and extent of relations between the four variables in the athletic background set and the four variables in the identity status set. The analysis yielded two canonical roots (dimensions). The first dimension had an eigenvalue of .738, while the second dimension had an eigenvalue of .680. For the first canonical root, the component loadings (see Table 2) revealed a moderate negative loading of REV and AS and a moderate positive loading of COMB on the athletic background side of the model, as well as a moderate negative loading of MOR1 and a heavy positive loading of FOR1

on the identity status side of the model. For the second canonical root, the component loadings revealed a moderate positive loading of REV and a heavy positive loading of COMB on the athletic background side of the model, as well as a moderate positive loading of DIF1 and a heavy negative loading of ACH1 on the identity status side of the model. See Figure 1 for a graph of the component loadings and Figure 2 for a graph of the single category coordinates.

In combination with the OVERALS analysis, four univariate 2 X 2 X 2 ANOVAS were conducted to reveal any differences in DIF (diffusion), FOR (foreclosure), MOR (moratorium) and ACH (achievement) scores across three factors - SEX (male versus female), REV (revenue-producing versus nonrevenue-producing sport) and UP (upper versus lowerclass athlete). For the diffusion scores, a significant two-way SEX by REV interaction was revealed, $F(1,94)=4.26$, $p<.05$, $MSE=109.57$, as well as a significant main effect for REV, $F(1,94)=4.98$, $p<.05$, $MSE=109.57$. Further analysis of the SEX by REV interaction indicated that male athletes from nonrevenue-producing sports produced significantly higher-diffusion scores than both male athletes from revenue-producing sports, $t(42)=-2.88$, $p<.01$, and female athletes from nonrevenue-producing sports, $t(57)=2.73$, $p<.01$. For the foreclosure scores, no significant effects were found. For the moratorium scores, a significant three-way SEX by REV by UP interaction was revealed, $F(1,94)=3.93$, $p<.05$, $MSE=126.35$. Further analysis of this interaction indicated that lowerclass male athletes from nonrevenue-producing sports produced significantly higher moratorium scores than both upperclass male athletes from nonrevenue-producing sports, $t(15)=2.31$, $p<.05$, and lowerclass male athletes from revenue-producing sports, $t(22)=-2.54$, $p<.05$. For the achievement scores, no significant effects were found.

Two additional ANOVAS were then conducted, using the continuous scores on IDFOR1 (ideological foreclosure) and INFOR1 (interpersonal foreclosure), rather than FOR (foreclosure), as dependent variables. It was hoped that by analyzing the two foreclosure subscales, differences would be revealed that would support previous findings on foreclosure in university athletes. Analysis of the IDFOR1 scores revealed a main effect for REV, $F(1,94)=4.71, p<.05, MSE=40.44$: athletes in revenue-producing sports produced significantly higher ideological foreclosure scores than athletes in nonrevenue-producing sports. No other significant effects were found for either foreclosure subscale.

There are several reasons why no analyses were conducted on the ideological and interpersonal identity status classifications provided by the EOM-EIS: first, the present author was interested in the *relative* standing of athletes on the four identity statuses rather than the absolute identity status categorization; second, previous studies using the EOM-EIS with athletes (e.g., Murphy et al., 1996) have focused exclusively on the continuous identity status scores; and third, the present author views the Identity Status Interview (ISI), rather than the self-report EOM-EIS, as the method of choice if one is concerned primarily with identity status classification. (See Tables 3 and 4 for frequency distributions of the ideological and interpersonal identity status classifications).



Discussion

The OVERALS analytic procedure produced some interesting results, revealing a close relationship between three variables: athletic scholarship status, type of sport (revenue-producing status), and moratorium scores. The single category coordinates indicated that nonscholarship athletes, from nonrevenue-producing sports, with high moratorium scores were contrasted with scholarship athletes, from revenue-producing sports, with low moratorium scores (see Figure 2). This finding makes intuitive sense and is consistent with previous theorizing on identity status in university athletes. Those athletes who have not received any scholarship funding for competing at the university level, and who realize and accept that they will never be able to earn a living by participating in their sport in the future, are more likely to engage in active exploration of alternative occupations and ideologies than athletes who have already received scholarship money for participating at the university level, and who anticipate the opportunity to earn a living by participating in their sport in the future. In other words, it is reasonable to assume that these two factors - failing to acquire a scholarship (i.e., "I wasn't even good enough to get a scholarship at this level.") and participating in a nonrevenue sport (i.e., "It's not even possible for me to play professionally.") - would provoke a great deal of exploration that might not occur in scholarship athletes participating in revenue-producing sports.⁴ This interpretation would explain the close proximity of the single category coordinates for these three variables in the OVERALS analysis.

⁴ It should be noted that low moratorium scores need not be interpreted negatively as a "lack of exploration"; if combined with high achievement scores, they can additionally be interpreted positively as "completed exploration" and/or "current commitment".

Aside from this finding linking moratorium scores with athletic scholarship status and type of sport, the single category coordinates from the OVERALS analytic procedure did not reveal a close association between the athletic background set and the scores on the other three identity statuses (see Figure 2).

The results from the ANOVAS are more definitive and easily interpreted. The two-way REV by SEX interaction revealed that male athletes in nonrevenue-producing sports produced higher diffusion scores than female athletes in nonrevenue-producing sports and male athletes in revenue-producing sports (see Table 5 below for cell means).

Table 5

Cell Means for Diffusion Scores: Two-Way Interaction

| Sex | Sport | |
|--------|------------------------------|------------------------------|
| | Revenue-producing | Nonrevenue-producing |
| Male | 45.28 ($\underline{n}=27$) | 55.25 ($\underline{n}=17$) |
| Female | 46.57 ($\underline{n}=16$) | 48.06 ($\underline{n}=42$) |

The cell accounting for the differences comprises 17 male participants: 3 swimmers (mean diffusion score = 60.67), 5 track and field athletes (mean diffusion score = 51.63) and 9 wrestlers (mean diffusion score = 55.46). (See Table 7 for mean identity status scores for each team). It appears that the male swimmers and wrestlers are causing the observed differences in diffusion scores. If so, the question then becomes: why are these athletes more diffuse than other athletes? The present author would like to suggest that, for the wrestlers, having a diffuse attitude towards a variety of life domains may be reinforced by team members as either "cool", rebellious, or

otherwise appropriate for the sport. Another possibility is that during their wrestling career, wrestlers may come to view any activity that is not directly related to their sport as a useless distraction or a waste of time. Although the explanation remains uncertain, it is evident from this study that the wrestling team likely comprises a group of highly diffuse athletes.

A short elaboration on the concept of diffusion may be helpful at this point. In general, "diffuse athletes" are those who indicate a complete lack of interest in both exploring and committing to alternatives. These athletes are likely to endorse such diffuse statements as "I don't think about relationships much. I just kind of take it as it comes." or "I'm not really interested in finding the right job, any job will do. I just seem to flow with what is available.", as they exemplify a laid-back, mellow and carefree attitude towards issues which are often taken quite seriously in our society (i.e., relationships, career choice). One might even speculate that these diffuse athletes would view most life domains, aside from their participation and involvement in sport, in a similarly apathetic manner.

An excellent example of this diffuse attitude is revealed in several of the wrestlers' responses to the questionnaires - information that is not included in the identity status data. For example, one participant filled out the questionnaire properly, yet made comments on the side indicating a tremendously diffuse attitude towards numerous identity spheres (e.g., "Fuck politics. Who cares?", "Fuck religion. Who cares?", "Don't care." and "Not important enough to make any decisions."). In addition, three other wrestlers did not take the questionnaire seriously (e.g., circled "c" for every answer; answered in a fixed a-b-c-d-e-f pattern); as a result, their data had to be discarded. Perhaps putting proper or serious effort into completing the questionnaire would have been incongruous with an "I don't care about anything" attitude. Further support for

this notion of "contagious diffusion" is derived from the male and female wrestlers' mean scores on the identity achieved status, which were the lowest among all teams in the present study (see Table 7). In combination, these findings lend support for the interpretation of the elevated diffusion scores suggested by the present author.

The three way SEX by REV by UP interaction revealed that lowerclass male athletes from nonrevenue-producing sports produced significantly higher moratorium scores than upperclass male athletes from nonrevenue-producing sports and lowerclass male athletes from revenue-producing sports (see Table 6 below for cell means).

Table 6

Cell Means for Moratorium Scores: Three-Way Interaction

| Sex | Sport | | | |
|--------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Revenue-producing | | Nonrevenue-producing | |
| | Lower | Upper | Lower | Upper |
| Male | 43.26 (<u>n</u> =13) | 47.20 (<u>n</u> =14) | 55.97 (<u>n</u> =11) | 42.67 (<u>n</u> =6) |
| Female | 53.50 (<u>n</u> =4) | 50.33 (<u>n</u> =12) | 52.29 (<u>n</u> =20) | 52.23 (<u>n</u> =22) |

The greater moratorium scores exhibited by the lowerclass male athletes from nonrevenue-producing sports in comparison to the lowerclass male athletes from revenue-producing sports, can be explained by the notion that athletes will engage in greater exploration if they realize that the possibility does not exist that they might make a living by participating in their sport. This interpretation is consistent with the results from the OVERALS analysis. Thus, male athletes

from sports such as swimming, track and field and wrestling may on average demonstrate greater psychosocial exploration than male athletes participating in such sports as basketball, football, and soccer. This explanation appears to hold only for lowerclass male athletes, as the difference was not evident among upperclass male athletes.

At this point, however, it is once again necessary to note that low moratorium scores need not be interpreted negatively as a “lack of exploration”. With this in mind, the following finding becomes relevant: male athletes from revenue-producing sports consistently scored at the bottom on moratorium and at the *top* on achievement in comparison to the other teams (see Table 7). The lower levels of exploration may therefore be explained by the fact that these athletes have already committed to chosen alternatives in a variety of life domains (i.e., their identity status is more advanced or achieved). As will later become evident, this reported commitment by athletes in revenue-producing sports often included a firm decision to attempt the attainment of professional ranks in sport.

The greater moratorium scores exhibited by the lowerclass male athletes from nonrevenue-producing sports in comparison to the upperclass male athletes from nonrevenue-producing sports is more difficult to explain. One would expect that upperclass athletes, nearing the end of their athletic careers, would engage in *more* exploration than lowerclass athletes; instead, the opposite has been found. One hypothesis is that the male athletes from nonrevenue-producing sports (e.g., the wrestlers) may enter university wanting to explore various life domains, yet quickly become immersed in the diffuse-reinforcing environment suggested above by the present author. This would leave this group more diffuse, rather than more achieved, by the time they reach the upperclass years. Consonant with this notion is the interesting finding that

the male athletes from nonrevenue-producing sports consistently scored towards the top on diffusion and towards the bottom on achievement in comparison to the other teams in this study (see Table 7). Thus, these athletes may indeed become more diffuse as their athletic career progresses.

The final significant finding from the ANOVA analyses is also the most notable. For the ideological foreclosure subscale, a main effect for REV was revealed, indicating that athletes from revenue-producing sports produced higher ideological foreclosure scores than athletes from nonrevenue-producing sports. This parallels the finding of Murphy et al. (1996). It should be noted, however, that Murphy et al. (1996) used the foreclosure subscale of the OM-EIS (Adams et al., 1979) - a six item scale which tapped three identity domains (occupation, religion, and politics) - while the present study used the ideological foreclosure subscale of the EOM-EIS (Adams et al., 1989) - an eight item scale which taps four identity domains (occupation, religion, politics, and philosophical life style). Although these instruments are highly similar, they are not identical; hence, the present finding cannot be considered an absolute replication. In spite of this difference, similar means were revealed by both studies: Murphy et al. (1996) reported a mean foreclosure score of 16.37 for athletes in revenue-producing sports and 13.07 for athletes in nonrevenue-producing sports, while the present study found means of 18.06 and 15.32. Thus, it appears to be a relatively consistent finding that varsity athletes in revenue-producing sports are slightly more foreclosed than athletes in nonrevenue-producing sports.

There are several potential explanations for the elevated foreclosure scores reported by varsity athletes in revenue-producing sports. From a psychological perspective, one could hypothesize that these athletes may have been "pushed" or "guided" into the athlete role by their

parents and family; this influence may even have occurred in combination with other restrictive policies, where the parents' opinions, standards, and values dominate the household. Another hypothesis is that the athletes in revenue-producing sports may themselves decide to avoid exploration of alternate life domains, because doing so may seem incongruous with their dream of a professional sports career. A third perspective is that it is the restrictiveness of the athletic system itself, rather than anything particular about the athlete or his/her family, that limits the exploration of athletes in revenue-producing sports. For example, the time constraints, physical requirements and psychological demands of the athletic system may isolate these athletes from more "mainstream" college activities. Future research would be needed in order to examine these and other explanations for the elevated foreclosure scores of varsity athletes in revenue-producing sports.

Perhaps the most interesting results of this study emerge not from the inferential statistical analyses but rather from a simple qualitative analysis of the demographic and athletic background data. In particular, answers to the two open-ended questions produced a fairly consistent and interesting pattern: most varsity athletes reported a tremendously strong commitment to athletics and/or fitness, and stated, either explicitly or implicitly, that their sport comprised a significant portion of their personal identity. For example, one male track and field athlete stated that "Athletics are an integral part of me. Without them, I am not myself. I need to play and participate in them at least five times a week.". Similar comments included "My sport is part of who I am. It will always play a part of my life." (softball), "My sport is my life for the short term." (softball), "Golf is something that will be there with me forever." (golf), "It is always a part of my life." (golf), "I can't see myself ever giving up field hockey." (field hockey),

“Without some kind of athletics, I would not be happy.” (field hockey) and “I actually can’t imagine not playing. It will always be a priority.” (women’s soccer). Other consistent response patterns included a commitment to some form of athletic-related employment such as coaching, sports journalism or sport therapy (e.g., female swimming: “Every job I have had, has had an aquatic aspect. Water is life.”), a hunger to play as long as possible (i.e., until too old or physically incapable), a strong desire to involve future offspring in sport, and a willingness to alter educational, vocational and familial plans in order to incorporate a sport into future life (e.g., women’s track and field: “Plan to marry someone who I can train with” and men’s wrestling: “Obtain a job with flexible hours that will let me out at practice time.”). These subjective responses provide clear evidence of the tremendous importance sport can play in the lives of varsity athletes.

In addition to the consistent patterns of the open-ended responses, a descriptive analysis of the demographics and athletic background form revealed a strong tendency for the male athletes in revenue-producing sports to overestimate the likelihood of achieving professionalism. Eleven out of the seventeen football players (65%), three out of the four male basketball players (75%), two out of the four male soccer players (50%) and one out of the two golfers (50%) indicated on the demographics form that they believed they would achieve the professional ranks in their sport. In a follow-up question, these same athletes reported a mean likelihood of 69% that they would achieve this level. One football player even specified the exact team for which he intended to play, and then followed it up with a perceived likelihood of 100% - “if I put in the hard work for it”. These numbers surpass the percentages found by Blann (1985) and Kennedy and Dimick (1987) with American varsity athletes and, in addition, far exceed the subjective

estimate of professional success (10% for football, between 5-10% for basketball, soccer, and golf) suggested by the statisticians in the SFU athletic department (Michael Kinghorn, personal communication, October 28, 1997). Similar findings were revealed for several of the athletes in nonrevenue-producing sports, with a high percentage of wrestlers (eight out of fourteen, or 57%) and track and field athletes (six out of sixteen, or 38%) aspiring towards the Olympics (rather than the professional ranks). Here, the subjective likelihood of success was reported as an even higher 72%. These numbers also surpass the subjective estimate of Olympic achievement (15-20% for wrestling, 10% for track and field) suggested by the statisticians in the SFU athletic department (Michael Kinghorn, personal communication, October 28, 1997). It thus appears that several of the varsity athletes in the present study show a strong tendency to overestimate their likelihood of achieving elevated (both professional and Olympic) ranks in their sport.

There are several potential explanations for the lofty percentages of athletes anticipating professional and Olympic success in the present study. Perhaps the athletic coaches and administrators at SFU have not *explicitly* communicated to their varsity athletes how difficult it is to achieve these elevated ranks in sport. Another possibility is that SFU varsity athletes may view themselves as an elite group - the only Canadian university athletes to compete in the NAIA and to receive scholarships - and hence more likely to achieve their goals, no matter how difficult these goals may seem. In fact, this elitist view may have been directly and/or indirectly communicated to the athletes by the administration and coaches during the recruitment stage (e.g., the "We are the Champs" headline posted on the gymnasium bulletin board). In addition, it is easy to imagine how this view would be reinforced by the athlete's peer group and fellow teammates during the early phases of the university athletic career. A final suggestion is that a

mild form of this “overestimation delusion/tendency” may be required in order to attain the high level of motivation and commitment required for athletic training and success.

Regardless of the explanations provided for the main findings of this study - the higher foreclosure scores and unrealistic athletic aspirations of athletes from revenue-producing sports - one thing can be stated with certainty: the literature clearly indicates that for these types of overcommitted athletes, there exists strong potential for negative consequences upon completion of the university athletic career. This is clearly expressed by Baillie and Danish (1992):

...some athletes become overly invested in their status and uniqueness as members of an elite, privileged class. For these persons, a significant proportion of their identity becomes closely linked to this role, and the end of a career in sports may precipitate a range of negative outcomes. (p. 82)

A number of these potential negative outcomes were previously reported by Greendorfer and Kleiber (1982) and include downward mobility, perception of failure, loss of status, alcoholism, drug dependency, and emotional or psychosocial difficulties. Some researchers have even compared the loss resulting from athletic retirement to the distress experienced from a disability or terminal illness (Wolff & Lester, 1989). This comparison echoes Little's (1969) comments regarding the “Athletic Neurosis” construct:

It [the distress on disengagement from sport] is a bereavement reaction to loss of part of the self, the overvalued physical prowess. Athleticism may not be neurotic itself; but, like

exclusive and excessive emotional dependence on work, intellectual pursuits, physical beauty or any other overvalued attribute or activity, athleticism can place the subject in a vulnerable pre-neurotic state leading to manifest neurotic illness in the event of an appropriate threat, or actual enforced deprivation, especially if it is abrupt or unexpected. (p. 195).

Whether one takes this extreme viewpoint or not, it is clear from the literature that varsity athletes, especially those anticipating athletic careers, are likely to experience some form of distress due to athletic retirement.

The results of the present study suggest that the varsity athletes from revenue-producing sports at SFU may be at risk for these disengagement difficulties upon completion of their athletic eligibility. Most of these athletes will not succeed in achieving the professional ranks; their higher foreclosure scores, lower moratorium scores and unrealistic aspirations suggest that this event will likely deliver quite a blow to their self-esteem, personal identity and overall life adjustment. Similar difficulties can be anticipated for the male wrestlers, who display an equally troubling combination of high diffusion scores, low achievement scores, and unrealistic Olympic aspirations. The present author would suggest that it would be beneficial to explicitly communicate to these athletes the harsh realities of the Olympic and professional selection processes, possibly in combination with some career and academic monitoring and/or counseling.

There are some limitations to the present study, the first of which is a relatively low response rate, possibly due to the fact that the questionnaire was mailed out during the summer

season. As a result, the findings may not be representative of the entire population of university athletes. Similarly, some teams were only represented by a small number of participants (e.g., men's basketball - four participants). A second limitation is that the study only surveyed athletes from the NAIA and thus cannot be extended to other Canadian varsity athletes who compete in the CIAU. Further research would have to be done in order to extend these findings, interpretations, and suggestions to other non-NAIA Canadian university athletes.

References

- Adams, G.R., Bennion, L., & Huh, K. (1989). Objective measure of ego-identity status: A reference manual (2nd Edition).
- Adams, G.R., Shea, J., & Fitch, S.A. (1979). Toward the development of an objective assessment of ego identity status. Journal of Youth and Adolescence, 8, 223-237.
- Adler, P.A., & Adler, P. (1991). Backboards and blackboards: College athletes and role engulfment. New York: Columbia University Press.
- Archer, S.L. (1989). Gender differences in identity development: Issues of process, domain, and timing. Journal of Adolescence, 12, 117-138.
- Baillie, P.H.F., & Danish, S.J. (1992). Understanding the career transition of athletes. The Sport Psychologist, 6, 77-98.
- Baltes, P.B., & Baltes, M.M. (1980). Plasticity and variability in psychological aging: Methodological and theoretical issues. In G. Gurski (Ed.), Determining the effects of aging on the central nervous system (pp. 41-66). Berlin: Shering.
- Bilsker, D., Schiedel, D., & Marcia, J. (1988). Sex differences in identity status. Sex Roles, 18, 231-236.
- Blann, F.W. (1985). Intercollegiate athletic competition and students' educational and career plans. Journal of College Student Personnel, 26, 115-119.
- Blustein, D.L., Devenis, L.E., & Kidney, B.K. (1989). Relationship between the identity formation process and career development. Journal of Counseling Psychology, 36, 196-202.
- Blustein, D.L., & Phillips, S.D. (1990). Relationship between ego identity statuses and decision-making styles. Journal of Counseling Psychology, 37, 160-168.
- Campbell, E., Adams, G.R., & Dobson, W.R. (1984). Familial correlates of identity formation in late adolescence: A study of the predicted utility of connectedness and individuality in family relations. Journal of Adolescence, 6, 509-525.
- Chartrand, J., & Lent, R. (1987). Sports counseling: Enhancing the development of the student-athlete. Journal of Counseling and Development, 66, 164-167.
- Craig-Bray, L. & Adams, G.R. (1986). Different methodologies in the assessment of identity: congruence between self-report and interview techniques? Journal of Youth and Adolescence, 15, 191-204.

Danish, S.J., Petitpas, A.J., & Hale, B.D. (1993). Life development interventions for athletes: Life skills through sports. The Counseling Psychologist, 21, 352-385.

Dellas, M. & Jernigan, L.P. (1990). Affective personality characteristics associated with undergraduate ego identity formation. Journal of Adolescent Research, 3, 306-324.

Eitzen, D.S. (1984). Sport in contemporary society. New York: St Martin.

Freilino, M.K. & Hummel, R. (1985). Achievement and identity in college age vs. adult women students. Journal of Youth and Adolescence, 14, 1-11.

Good, A.J., Brewer, B.W., Petitpas, A.J., Van Raalte, J.L., & Maniar, M.T. (1993, Spring). Identity foreclosure, athletic identity, and college sport participation. The Academic Athletic Journal, 1-12.

Greendorfer, S.L., & Kleiber, D.A. (1982). Sport retirement as social death: The college athlete. Paper presented at the Third Annual Conference of the North American Society for the Sociology of Sport, Toronto.

Grotevant, H.D. & Adams G.R. (1984). Development of an objective measure to assess ego identity in adolescence: Validation and replication. Journal of Youth and Adolescence, 13, 419-438.

Harris, D., & Eitzen, D.S. (1978). The consequences of failure in sport. Urban Life, 7, 177-188.

Kamptner, N.L. (1988). Identity development in late adolescence: Causal modeling of social and familial influences. Journal of Youth and Adolescence, 17, 493-514.

Kennedy, S.R., & Dimick, K.M. (1987). Career maturity and professional sports expectations of college football and basketball players. Journal of College Student Personnel, 27, 293-297.

Lee, C. (1983). An investigation of the athletic career expectations of high school student athletes. Personnel and Guidance Journal, 61, 544-547.

Little, J.C. (1969). The athletic neurosis: A deprivation crisis. Acta Psychologica Scandanavia, 45, 187-197.

Marcia, J.E. (1966). Development and validation of ego-identity status. Journal of Personality and Social Psychology, 3, 551-558.

Marcia, J.E., Waterman, A.S., Matteson, D.R., Archer, S.L., & Orlofsky, J.L. (1993). Ego identity: A handbook for psychosocial research. New York: Springer-Verlag.

Morash, M.A. (1980). Working class membership and the adolescent identity crisis. Adolescence, 15, 313-320.

Munro, G. & Adams, G.R. (1977). Ego identity formation in college students and working youth. Developmental Psychology, 13, 523-524.

Murphy, G.M., Petitpas, A.J., & Brewer, B.W. (1996). Identity foreclosure, athletic identity, and career maturity in intercollegiate athletes. The Sport Psychologist, 10, 239-246.

Nelson, E. (1983, April). How the myth of the dumb jock becomes fact: A developmental view for counselors. Counseling and Values, pp. 176-185.

Norgaard, J. (1994). Identity status and self-efficacy among retired professional dancers: A pre-and post-retirement study. (Unpublished honors thesis, Simon Fraser University).

Ogilvie, B.C., & Howe, M. (1986). The trauma of termination from athletics. In J.M. Williams (Ed.), Applied sport psychology: Personal growth to peak performance (pp. 365-382). Palo Alto, CA: Mayfield.

Petitpas, A.J. (1981). The identity development of male intercollegiate athlete (Doctoral dissertation). Dissertation Abstracts International, 42, 2508A.

Petitpas, A.J., & Champagne, D.E. (1988). Developmental programming for intercollegiate athletes. Journal of College Student Development, 29(5), 454-460.

Petitpas, A.J., Finley, M., Vettero, R. (1985). A developmental approach to counseling the intercollegiate athlete. Unpublished manuscript.

Rotherum-Borus, M.J. (1989). Ethnic differences in adolescents' identity status and associated behavior problems. Journal of Adolescence, 12, 361-374.

Sowa, C.J., & Gressard, C.F. (1983) Athletic participation: Its relationship to student development. Journal of College Student Personnel, 24, 236-239.

Stephen, J., Fraser, E., & Marcia, J.E. (1992). Moratorium-achievement (MAMA) cycles in lifespan identity development: Value orientations and reasoning system. Journal of Adolescence, 15, 283-300.

Streitmatter, J.L. (1988). Ethnicity as a mediating variable of early adolescent identity development. Journal of Adolescence, 11, 335-346.

Waterman, A.S., & Goldman, J.A. (1976). A longitudinal study of ego identity development at a liberal arts college. Journal of Youth and Adolescence, 5, 361-369.

Williams, J.C. (1991). Socialization experience and identity foreclosure: an exploration of the effects of role disengagement on the personal adjustment of former college athletes. Dissertation Abstracts International, 52, 1094A.

Wolff, R., & Lester, D. (1989). A theoretical basis for counseling the retired professional athlete. Psychological Reports, 64(3), 1043-1046.

Yiannakis, A. (1981, April). Manipulative socialization in intercollegiate athletics: Some initial observations. Paper presented at the national convention of the American Alliance for Health, Physical Education, Recreation and Dance, Boston.

Table 1

Identity Status Classification

| Commitment | Exploration | |
|------------|----------------------|--------------------|
| | Present | Absent |
| Present | Identity Achievement | Foreclosure |
| Absent | Moratorium | Identity Diffusion |

Table 2

Component Loadings For Single Variables

| Variable | Dimension 1 | Dimension 2 |
|----------|-------------|-------------|
| REV | -.462 | .572 |
| UP | .120 | -.205 |
| AS | -.561 | .289 |
| COMB | .359 | .721 |
| DIF1 | .031 | .445 |
| FOR1 | .757 | .223 |
| MOR1 | -.397 | .343 |
| ACH1 | .176 | -.631 |

Table 3

Frequency Distribution of Ideological Identity Status (N=102)

| Identity Status | Frequency | Percent |
|-----------------|-----------|---------|
| Diffusion | 44 | 43.1 |
| Foreclosure | 5 | 4.9 |
| Moratorium | 43 | 42.2 |
| Achievement | 10 | 9.8 |

Table 4

Frequency Distribution of Interpersonal Identity Status (N=102)

| Identity Status | Frequency | Percent |
|-----------------|-----------|---------|
| Diffusion | 16 | 15.7 |
| Foreclosure | 7 | 6.9 |
| Moratorium | 59 | 57.8 |
| Achievement | 20 | 19.6 |

Table 7
 Mean Identity Status Scores For Each Varsity Team

| Diffusion Score | Foreclosure Score | Moratorium Score | Achievement Score |
|------------------------------|------------------------------|------------------------------|------------------------------|
| Swimming Men (n=3) 60.67 | Basketball Men (n=4) 43.61 | Volleyball (n=7) 59.10 | Basketball Men (n=4) 69.25 |
| Softball (n=7) 56.80 | Soccer Women (n=10) 40.30 | Swimming Women (n=4) 56.75 | Soccer Men (n=4) 68.75 |
| Wrestling Men (n=9) 55.46 | Wrestling Men (n=9) 34.94 | Basketball Women (n=6) 55.50 | Soccer Women (n=10) 68.10 |
| Wrestling Women (n=5) 52.40 | Swimming Women (n=4) 33.75 | Swimming Men (n=3) 55.00 | Football (n=17) 67.71 |
| Volleyball (n=7) 52.14 | Soccer Men (n=4) 33.50 | Track Women (n=11) 53.45 | Field Hockey (n=8) 66.13 |
| Track Men (n=5) 51.63 | Basketball Women (n=6) 32.67 | Track Men (n=5) 52.60 | Track Women (n=11) 64.00 |
| Basketball Men (n=4) 47.00 | Field Hockey (n=8) 32.64 | Wrestling Women (n=5) 49.40 | Golf (n=2) 64.00 |
| Soccer Women (n=10) 46.71 | Track Men (n=5) 31.40 | Wrestling Men (n=9) 49.30 | Swimming Women (n=4) 63.25 |
| Basketball Women (n=6) 46.33 | Football (n=17) 30.24 | Soccer Women (n=10) 48.50 | Track Men (n=5) 62.60 |
| Swimming Women (n=4) 46.00 | Softball (n=7) 29.57 | Field Hockey (n=8) 48.50 | Volleyball (n=7) 61.29 |
| Golf (n=2) 46.00 | Track Women (n=11) 27.91 | Softball (n=7) 47.29 | Swimming Men (n=3) 60.33 |
| Football (n=17) 45.27 | Swimming Men (n=3) 26.67 | Football (n=17) 46.52 | Basketball Women (n=6) 60.17 |
| Track Women (n=11) 43.45 | Volleyball (n=7) 26.43 | Soccer Men (n=4) 45.61 | Softball (n=7) 59.00 |
| Soccer Men (n=4) 43.25 | Wrestling Women (n=5) 26.07 | Basketball Men (n=4) 44.25 | Wrestling Men (n=9) 57.37 |
| Field Hockey (n=8) 41.50 | Golf (n=2) 24.00 | Golf (n=2) 36.50 | Wrestling Women (n=5) 56.97 |

Figure 1

Component Loadings

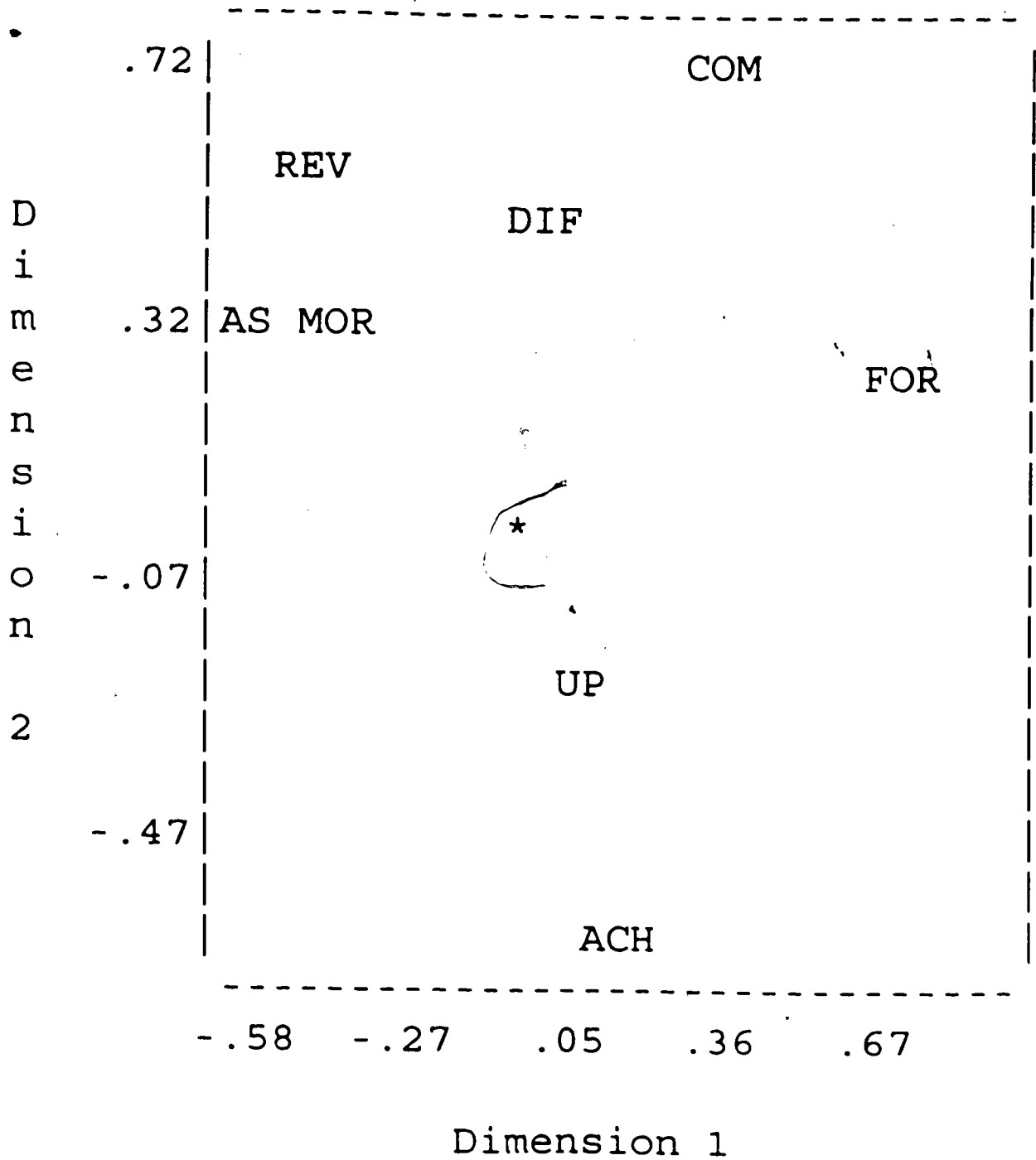
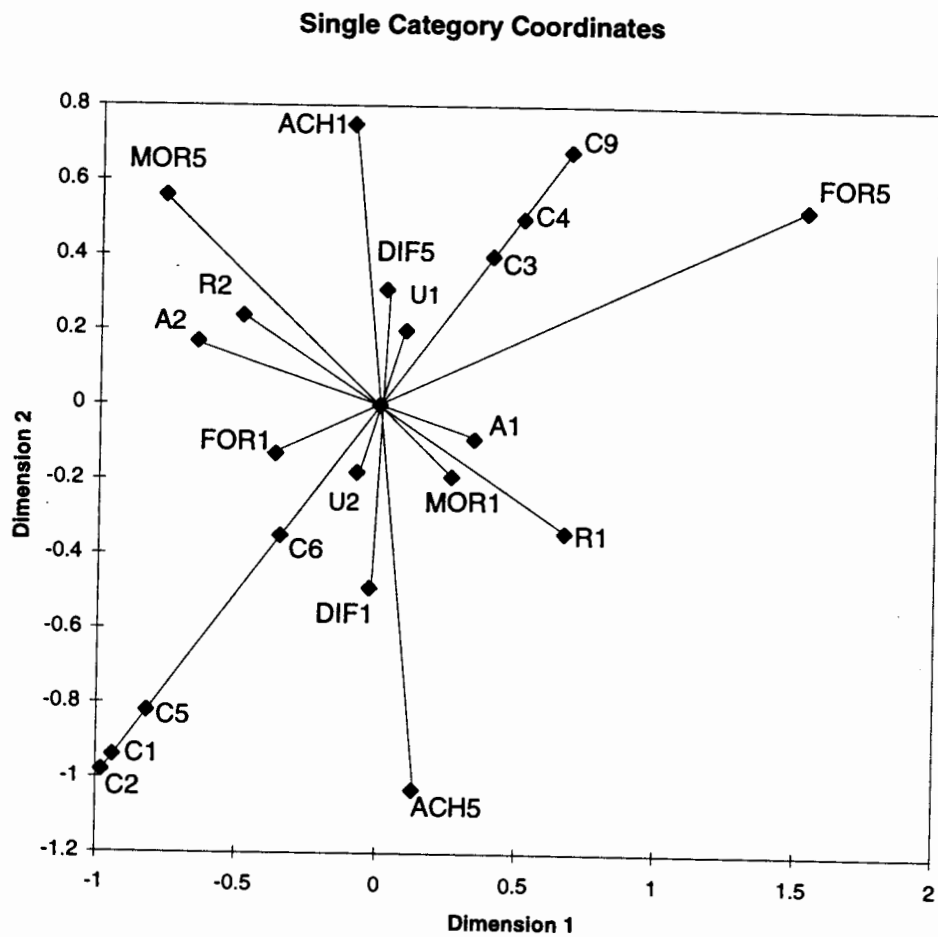


Figure 2

Single Category Coordinates



Appendix A

DEMOGRAPHIC INFORMATION

Age: _____

Sex: Male Female (Circle one)

Team/Sport: _____

Cumulative G.P.A.: _____

Year of Eligibility: 1 2 3 4 (Circle one)

Are you on athletic scholarship? Yes No (Circle one)

In the last five years, what is the highest level at which you've competed in your sport?
(CHECK ONE RESPONSE ONLY)

- | | | | | | |
|-----------------|-----|------------------|-----|--------------------|-----|
| 1. Professional | ___ | 3. Pan-am games | ___ | 5. Provincial Team | ___ |
| 2. Olympics | ___ | 4. National Team | ___ | 6. NAIA/University | ___ |

Do you plan to compete in your sport beyond university? Yes No (Circle one)

In your own words, what are your long term goals in your sport? _____

What is the highest level of your sport at which you believe you will achieve?
(CHECK ONE RESPONSE ONLY)

- | | | | | | |
|-----------------|-----|------------------|-----|--------------------|-----|
| 1. Professional | ___ | 3. Pan-am games | ___ | 5. Provincial Team | ___ |
| 2. Olympics | ___ | 4. National Team | ___ | 6. NAIA/University | ___ |

What is the likelihood that you will achieve the above level? (Answer between 0-100%):

If you choose a non-athletic career path in the future, do you think you will participate in your current sport for leisure/recreational purposes? Yes No (Circle one)

In your own words, how do you plan to incorporate your sport into your future life?

Appendix B

SIMON FRASER UNIVERSITY

Recreational Services & Athletics
Facilities Department
8888 University Drive
Burnaby, British Columbia V5A 1S6



Telephone: (604) 291-4307
Fax: (604) 291-3425
File:

June 11th, 1997

SFU Varsity Athletes

Re: Graduate Survey

Dear SFU Varsity Athlete,

As you may be aware, each graduate student at Simon Fraser University must complete a thesis project as part of their graduate work. Gary Mangel, who is a graduate student at the university (under the supervision of Dr. David Cox in the department of Psychology) is conducting the enclosed survey with university athletes at S.F.U.

Since it is the University's mandate to develop a broader understanding of its students, completing the enclosed survey will not only contribute to our knowledge and understanding of Simon Fraser's athletes, but all university athletes in general. In addition, Dr. Cox, who will be supervising Gary's study has aided the Athletics department in the past by providing psychological services (free of charge) to various athletes. Completing the survey therefore, would be an excellent way for the athletes to express their appreciation for these services.

After speaking with Gary and authorizing his research, I strongly encourage you complete the survey so that a representative sampling of opinions and reactions from the athletes here at S.F.U. can be compiled.

Naturally all of your survey responses will be held in strictest confidence and will be used only to produce overall response profiles from student athletes like yourself. Please use the enclosed pre-addressed envelope to return your survey.

Thank you in advance for providing this important feedback.

Sincerely,

Mike Dinning
Director
Recreational Services & Athletics

MD/nc

Appendix C

Dear SFU Varsity Athlete,

As Mr. Dinning outlined in his cover letter, my name is Gary Mangel. I am a graduate student at SFU working towards my master's degree in psychology. The enclosed questionnaire (and your responses to it) will ultimately constitute the data set for my thesis; as a result, it is very important that you both **complete and return the survey by July 31st**. In addition, I would strongly appreciate it if you would take the questions seriously and do your best to respond in an open and honest manner.

I realize that most of you are on summer vacation and the last thing you feel like doing is completing a psychological questionnaire. However, **I am asking you not to throw this aside as you might do with other similar surveys that you receive in the mail**. This is not some bureaucratic organization asking you for your feedback on its overpriced product; in contrast, I am a 25-year-old student with a strong appreciation for the unique talents and abilities of university athletes. On several occasions, I have cheered my guts out for you guys while watching you work your butts off on the court, field, track and swimming pool. In addition, I have had a number of varsity athletes as students in my tutorials and have always made the effort to accommodate their athletic schedules, often with extensions on assignments. **What I am asking for is 30 minutes of your time - a small portion of your day which will make a huge difference in my academic progress.**

Thank you in advance for your help and best of luck with the upcoming season!

Sincerely,

Gary Mangel

[Team picture inserted here]

Appendix D

STEPS TO FOLLOW**STEP 1: Read and sign the consent form****STEP 2: Fill out demographic form****STEP 3: Read instructions****STEP 4: Fill out questionnaire****STEP 1: Read and sign the consent form****IDENTITY STUDY: INFORMATION AND CONSENT FORM****Nature of Participation**

The present study is designed to explore identity issues in university athletes. Participation involves completing a demographic form in addition to a short questionnaire. The study should take approximately half an hour to complete.

This research is being conducted by Gary Mangel in the Department of Psychology at Simon Fraser University under the joint supervision of Dr. Bob Ley and Dr. David Cox. We and the University make every attempt to protect the interests, comfort, and safety of those who participate in research. Your participation is completely voluntary. If you choose to participate and then change your mind, you may withdraw from the study at any time. Your decision about whether or not to participate will not affect your treatment in the Department of Psychology or at the University in any way.

Any information provided to us by you is confidential. No one but the researchers who are part of this project will have access to the research information. Your responses will be kept in a secure location, filed using an arbitrary research code. Identifying information will be destroyed as soon as it is no longer needed. Any presentations or publications resulting from this study will be based on group data, not on individual cases, and will not reveal the identity of participants.

Risks and Benefits

Some of the questions deal with personal issues and thus may be upsetting. Remember that you are free to withdraw from the study at any time without penalty. While the results are not likely to benefit you directly in any way, they will help psychologists better understand identity issues in university athletes.

I have read and understand this information form, which includes a statement of the risks and benefits of participation. By signing this form, I give my consent freely and voluntarily to participate in this study.

If I want information concerning the results of this study, I may contact the researchers, Dr. Bob Ley and Gary Mangel, Department of Psychology, SFU, at 291-3354. I may register any complaint I might have about the study with the researchers or with Dr. Christopher Webster, Chair of the Department of Psychology, SFU, at 291-3250.

NAME (please print): _____

SIGNATURE: _____ DATE: _____