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Development and Preliminary Validation of a Sport-Specific Self-Report Measure of Identity Foreclosure

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A sport-specific, self-report measure of identity foreclosure was developed through a systematic process that included item pool generation, expert review, administration of items to a development sample of intercollegiate student athletes ($N = 326$), item evaluation, and administration of scales to validation samples of intercollegiate student athletes ($N = 322$, $N = 54$, and $N = 64$, respectively). The process yielded two four-item scales reflecting commitment to the occupational identity of athlete and one 4-item scale reflecting active exploration of roles other than that of athlete that (a) are internally consistent and temporally stable, (b) demonstrate preliminary factorial and convergent validity, and (c) can be used to create indices of identity foreclosure tailored to the sport context. The resulting Sport-Specific Measure of Identity Foreclosure has potential utility as an assessment tool for research and practice with athletes.

Keywords: career development, exploratory behavior, self-identity

The establishment of a sense of personal identity is a critical life task and process of late adolescence that has important implications for well-being and mental health (Erikson, 1959). In extending Erikson's theoretical propositions and operationalizing them for empirical study, Marcia (1966) delineated four identity statuses (i.e., identity achievement, identity diffusion, identity moratorium, and identity foreclosure) that people could experience as a function of the extent to which they had (a) firmly committed to occupation and ideology and (b) actively

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explored meaningful career and ideological alternatives. *Identity achievement* involves a firm commitment to occupation and ideology that follows active exploration of career and ideological alternatives. In contrast, *identity diffusion* involves neither commitment nor exploratory behavior. *Identity moratorium* occurs when people are actively exploring career and ideological options, but have not made any firm commitments. Individuals who make firm commitments to career and ideology without actively exploring meaningful career and ideological alternatives are said to experience *identity foreclosure* (Erikson, 1959; Marcia, 1966). By virtue of the recognition and rewards they receive for their athletic prowess and the extensive amounts of time and physical and psychological energy required for sport participation, athletes are particularly susceptible to experiencing identity foreclosure (Linnemeyer & Brown, 2010; Petitpas & France, 2010). That is, they may commit strongly to the occupational identity of "athlete" and find themselves with insufficient time, energy, or inclination to engage in exploratory behavior (Petitpas & France, 2010).

Identity foreclosure has been examined most extensively in college students. Individuals in the general college student population with identity foreclosure tend to display a positive mental health profile characterized by high levels of life satisfaction, psychological well-being, and self-esteem, and low levels of depression, anxiety, rule breaking, alcohol use, and aggression (Schwartz et al., 2011). Among intercollegiate student athletes in North America, however, a different pattern of research findings has emerged. In studies using the foreclosure subscale of the Objective Measure of Ego Identity Status (Adams, Shea, & Fitch, 1979), identity foreclosure is inversely related to indices of career development (Brown, Glastetter-Fender, & Shelton, 2000; Murphy, Petitpas, & Brewer, 1996). And in studies using measures of athletic identity (primarily the Athletic Identity Measurement Scale [AIMS]; Brewer & Cornelius, 2001; Brewer, Van Raalte, & Linder, 1993), student athletes displaying a strong and exclusive commitment to the athlete role (i.e., athletic identity) tend to report lower levels of career development (Houle & Kluck, 2015; Murphy et al., 1996; Tyrance, Harris, & Post, 2013), higher levels of adjustment difficulties during transitions such as injury and sport career termination (Brewer, 1993; Hinitz, 1988; Ingebritsen, 1997; Reifsteck & Gill, 2011; Webb, Nasco, Riley, & Headrick, 1998), and greater receptivity to using performance-enhancing drugs (Hale & Waalkes, 1994) than their student athlete peers who are less strongly and exclusively identified with the athlete role. Thus, it appears that student athletes with identity foreclosure are at an elevated risk for experiencing problems with adjusting to common sport transitions and preparing for occupational roles outside that of athlete when their careers as intercollegiate student athletes have concluded (Brewer & Petitpas, 2017).

Despite the relevance of identity foreclosure to well-being and mental health, the ability to identify athletes with identity foreclosure has been hampered by the lack of a context-appropriate measure of the construct (Petitpas & France, 2010). Existing measures of identity foreclosure developed for the general late adolescent population have item content that is not relevant to foreclosing on the identity of athlete. The foreclosure scale of the Objective Measure of Ego-Identity Status (OMEIS; Adams et al., 1979), for example, has extensive item content pertaining to politics and religion. Identity-related measures with sport-specific item content, such as the AIMS (Brewer & Cornelius, 2001; Brewer et al., 1993) and the

Public-Private Athletic Identity Scale (Nasco & Webb, 2006), tap only the aspect of commitment to the identity of athlete and fail to assess the vital exploratory behavior component of identity foreclosure.

Given the lack of an appropriate measure of identity foreclosure for student athletes, there is a clear need for a sport-specific instrument of identity foreclosure that has item content pertaining to both commitment to the athlete role and exploratory behavior. The purpose of the current investigation was, therefore, to develop such a measure. Accepted guidelines for scale development were followed (DeVellis, 2003; Holmbeck & Devine, 2009). Specifically, the investigation included the following steps: (a) item pool generation, (b) expert review, (c) administration of items to a development sample, (d) item evaluation, and (e) administration of scales to validation samples.

Item Generation and Expert Review

To facilitate the process of item pool generation, descriptions based on the review of identity foreclosure in sport by Petitpas and France (2010) were written for the key constructs to be assessed with a Sport-Specific Measure of Identity Foreclosure (SSMIF; i.e., commitment to the athlete role, exploratory behavior corresponding to roles other than that of athlete). Commitment was described as "making a firm commitment to the role of athlete." Exploration was described as "a deliberate internal or external action of seeking and processing information in relation to oneself or one's environment outside the realm of sport." In addition, extant measures of identity foreclosure and related constructs were reviewed in search of items that could be adapted for a sport-specific measure. Among the measures that were consulted are the Dimensions of Identity Development Scale (Luyckx et al., 2008), the OMEIS (Adams et al., 1979), and the Revised Identity Style Inventory (Berzonsky et al., 2013).

An initial pool of 34 items was generated by the research team, with 17 items corresponding to commitment and 17 items corresponding to exploration. An internal review of the items was conducted by the research team. Items lacking fidelity with the intended constructs were deleted from the pool. This process reduced the size of the pool to 16 items, with eight items corresponding to commitment and eight items corresponding to exploration. The pool of 16 items and definitions of the commitment ("making a firm commitment to the role of athlete") and exploration ("a deliberate internal or external action of seeking and processing information in relation to oneself or one's environment outside of the realm of sport") constructs were forwarded to a panel of four experts on late adolescent development through sport to review. The members of the panel were faculty members in departments of psychology ($n = 2$), counseling and educational psychology ($n = 1$), and sport science ($n = 1$). The members of the panel were asked to rate each item in terms of how well it measured the construct for which it was written on a scale from 1 (*measures construct poorly*) to 5 (*measures construct well*) and offer additional comments on each item. On the basis of the panel's responses, three items with means less than 4.00 (Ms = 3.38, 3.13, and 3.50, respectively) were removed from the pool (two items corresponding to commitment and one item corresponding to exploration).

Administration of Items to a Development Sample and Item Evaluation

The pool of 13 items deemed acceptable after review by the panel of experts was administered to a development sample of intercollegiate student athletes, the population that has been examined most extensively with regard to identity foreclosure in sport. The key purposes of this phase of the research were to examine the factor structure of the items, to determine whether internally consistent subscales could be created from items clustering together as factors, and to assess the extent to which the items were associated with the tendency to respond in a socially desirable manner.

Method

Participants. The participants were 326 intercollegiate student athletes in the United States (176 women, 145 men, one other gender, and four unspecified gender). The mean age of the participants was 19.47 ($SD = 1.23$) years. Individuals from National Collegiate Athletic Association (NCAA) Division I ($n = 115$) and Division III ($n = 206$) institutions were represented in the sample (five participants did not report the divisional status of their institution). The sports with the greatest representation in the sample of participants were soccer ($n = 68$), track and field/cross country ($n = 44$), lacrosse ($n = 29$), American football ($n = 24$), swimming and diving ($n = 21$), baseball ($n = 20$), and basketball ($n = 20$).

Procedure. Institutional review board (IRB) approval was obtained at the site from which the research was coordinated. The pool of items was then administered in random order to the participants via an online survey platform ($n = 181$) or an in-person, paper-and-pencil questionnaire ($n = 145$). A scale from 1 (*strongly disagree*) to 7 (*strongly agree*) was used for each of the 13 items in the pool. A questionnaire requesting demographic information and the 20-item short-form of the Marlowe–Crowne Social Desirability Scale (Strahan & Gerbasi, 1972) were also administered.

Data analysis. Even though items corresponding explicitly to the commitment and exploration constructs were written, a conservative approach to item reduction was adopted, given the preliminary nature of the study. Therefore, a series of exploratory factor analyses was performed on the pool of items, using principal axis factoring with varimax rotation. After each analysis, cross-loaded items (with loadings ≥ .40) were deleted, and the analysis was repeated until there were no cross-loaded items. Parallel analysis was also performed on the items. An additional pair of exploratory factor analyses was performed, in which the number of factors in the solution were constrained to one below the number obtained in the initial analysis and one above the number obtained in the initial analysis, respectively. Next, a series of reliability analyses was performed on the items loading on each factor. Items were deleted from a given factor when doing so would lead to an increase in Cronbach's alpha. A final exploratory factor analysis, again using principal axis factoring with varimax rotation, completed the factor analyses for this phase of the research. Finally, Pearson correlations were calculated between scores on the short form of the Marlowe–Crowne Social Desirability Scale and each individual item score, and a

one-way multivariate analysis of variance (MANOVA) was performed on the pool of items that were retained from the factor analysis and other continuous variables assessed in this study (i.e., age, Marlowe–Crowne Social Desirability Scale short-form scores) to examine differences as a function of whether the data were collected online or in person.

Results and Discussion

Although the items were written for two constructs (i.e., commitment and exploration), initial screening for the number of factors using exploratory factor analysis (with criteria of eigenvalues greater than 1.00 and a noticeable leveling off of a scree plot) and parallel analysis revealed a three-factor solution to be optimal. When two- and four-factor models were examined, the structure and interpretability of the models were seriously degraded. Therefore, the three-factor solution was examined for item fit. Two cross-loaded items were deleted, and a second exploratory factor analysis was conducted. There were no cross-loadings in the second analysis. Although the exploration construct was represented by a single factor, the commitment construct was represented by two factors—one consisting of items reflecting commitment *at the present time* (e.g., "I am sure that I want to be an athlete") and another consisting of items reflecting commitment *extending into the future* (e.g., "Being an athlete is the direction I want to follow in my life").

The reliability analyses prompted the deletion of one additional item and yielded subscales of acceptable internal consistency corresponding to the constructs of commitment at the present time (four items, $\alpha = .80$), exploration (four items, $\alpha = .81$), and commitment extending into the future (two items, $\alpha = .82$). The final exploratory factor analysis yielded a three-factor solution that included all 10 of the remaining items, explained 69% of the variance, and is displayed in Table 1. All of the Pearson correlations that were calculated between scores on the short form of the Marlowe–Crowne Social Desirability Scale and each individual item score were less than |.12|, and all but three were less than |.09|, suggesting that the items were only weakly associated with the tendency to respond in a socially desirable manner.

In the MANOVA, a significant multivariate effect of mode of data collection was obtained, $F(12, 294) = 4.68$, Wilks' lambda = .84, $p < .001$, partial eta squared = .16. Follow-up univariate analyses indicated that, relative to the participants who completed an online survey, the participants who completed paper-and-pencil questionnaires were significantly older ($p = .001$, partial eta squared = .04), scored significantly higher on five items ("I don't expect to change the decision I made to become an athlete," $p = .001$, partial eta squared = .04; "I have chosen to be an athlete," $p = .007$, partial eta squared = .02; "I am committed to being an athlete," $p = .001$ partial eta squared = .03; "I am sure that I want to be an athlete," $p = .004$, partial eta squared = .03; and "Being an athlete is the direction I want to follow in life," $p = .04$, partial eta squared = .01), and scored significantly lower on one item ("I have pursued interest in roles other than athlete," $p < .001$, partial eta squared = .06). The age difference (19.64 vs. 19.17 years) does not appear meaningful, and, although there is no theoretical reason to expect responses to foreclosure-related items to differ as a function of mode of data collection, it is possible that the items referring to the current level of commitment to being an athlete may elicit higher

Table 1 Factor Loadings, Communalities, and Initial Eigenvalues Based on a Principal Axis Factoring Analysis With Varimax Rotation (*N* = 326)

	Factor			
Item	1	2	3	Communality
I am committed to being an athlete.	**.81**	.07	.10	.68
I am sure that I want to be an athlete.	**.80**	–.02	.17	.67
I don't expect to change the decision I made to become an athlete.	**.64**	–.04	.11	.42
I have chosen to be an athlete.	**.62**	.11	.04	.40
I have gathered information about roles other than athlete.	.15	**.80**	–.07	.66
I have pursued interest in roles other than athlete.	.05	**.74**	–.09	.55
I have considered adopting roles other than athlete.	–.07	**.66**	–.14	.46
I have explored non-sport interests as possible opportunities/directions.	.02	**.66**	–.17	.46
Being an athlete is the direction I want to follow in life.	.30	–.17	**.82**	.80
I have definitely decided that being an athlete is the occupation I want to pursue.	.09	–.22	**.77**	.64
Initial eigenvalue	3.04	2.76	1.13	

Note. Factor loadings > .40 are presented in bold.

scores when in the immediate presence of other individuals (i.e., teammates) displaying such a commitment.

The most noteworthy finding of this phase of the research is the bifurcation of the items intended to reflect commitment to the athlete role along temporal lines. This result raises the important question as to whether commitment to being an athlete at a particular point in time or the extension of that commitment into an indefinite future has greater implications for outcomes of interest (e.g., adjustment to sport transitions, career development, receptivity to performance-enhancing drugs). Answers to this question can be obtained only if both the present and future perspectives are considered in assessing commitment to the athlete role.

Administration of the Items to Validation Samples

In the next phase of the research, the items retained after the previous phase were administered to three validation samples for the purposes of confirming the factor structure of the items, assessing the test–retest reliability of the subscales emerging from the factor analysis, and examining the convergent validity of the subscales, respectively. Because the factor reflecting commitment extending into the future consisted of only two items, two new items were written for administration to the validation samples. The items (i.e., "Being an athlete is what I want to do with my

future," "Being an athlete is what I want to achieve in my life") were written with the explicit intention of complementing the two existing items on the subscale and representing the construct of commitment extended into the future.

Validation Sample 1: Confirming the Factor Structure

It was expected that the three-factor solution documented in the previous phase of the research would be replicated. The new items were anticipated to load on the factor for which they were written.

Method. The pool of items was administered to 322 intercollegiate student athletes in the United States (144 women and 178 men). The mean age of the participants was 19.46 ($SD = 1.29$) years. All participants represented NCAA Division III institutions. The sports with the greatest representation in the sample of participants were American football ($n = 59$), soccer ($n = 57$), swimming and diving ($n = 52$), and baseball ($n = 39$). As with the development sample, the pool of items was administered in random order to the participants via an online survey platform ($n = 217$) or an in-person, paper-and-pencil questionnaire ($n = 105$) using a scale from 1 (*strongly disagree*) to 7 (*strongly agree*) for each of the items in the pool after receiving IRB approval.

The software EQS (Multivariate Software, Inc., Temple City, CA; version 6.1) was used to perform a confirmatory factor analysis (CFA) with the robust maximum likelihood estimation method. Mardia's coefficient was 46.16, indicating significant deviations from multivariate normality, but robust maximum likelihood does not assume that the variables in the model are continuous and have a multivariate normal distribution. The model was evaluated using the Satorra–Bentler chi-square test, the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). The Satorra–Bentler chi-square test indicates a good fit when it is not significant, but the test is extremely sensitive to the sample size. Consequently, an alternative set of fit indices has been developed. The CFI has values between 0 and 1, with 1 indicating a perfect fit. A CFI value of .95 is usually considered the minimum for acceptance of the model. For the RMSEA, values above .1 indicate poor model fit, values between .08 and .05 show a reasonable error of approximation, and values of less than .05 indicate good model fit (Hu & Bentler, 1999). Measurement invariance was examined between the modes of data collection (i.e., pencil-and-paper questionnaire or online survey platform) and between genders by comparing the models sequentially, restricting loadings, intercepts, and residuals to be equivalent between groups. Changes in the fit indices of CFA and RMSEA of <.01 were considered evidence of measurement invariance (Putnick & Bornstein, 2016). Omega (ω) coefficients were computed for each of the subscales corresponding to the factors obtained in the exploratory factor analysis (and examined in the CFA) to assess the internal consistency of the subscales.

To examine differences as a function of whether the data were collected online or in person, separate one-way multivariate analyses of variance (MANOVAs) were performed on (a) age and the pool of items that was administered and (b) scores on the commitment (present), commitment (future), and exploration subscales. Independent samples t tests were performed on the athletic identity foreclosure (present) and athletic identity (future) scores for the same purpose.

Results and discussion. The results of the CFA indicated an adequate fit of the hypothesized three-factor model featuring commitment (future), commitment (present), and exploration factors. Although the chi-square value was statistically significant, Satorra–Bentler $\chi^2_{51} = 83.88$, $p < .001$, the other fit indices suggested a good fit of the data to the proposed model: CFI = .98, and RMSEA = .05 (90% confidence interval [.03, .06]). All of the standardized factor loadings (which are presented in Figure 1) were statistically significant. Assessment of measurement invariance between methods of administration using multigroup CFA indicated that the model demonstrated strict invariance, as the difference in CFI and RMSEA between successively constrained models was less than .01. Similar results were obtained for comparing models between males and females, with the model again demonstrating strict invariance. The reliability analyses indicated that the commitment (future), commitment (present), and exploration subscales all demonstrated acceptable internal consistency, with omega coefficients of .92, .82, and .76, respectively. It, therefore, appears that the two new items fulfilled the purpose of bolstering the commitment (future) subscale.

In the first MANOVA, a significant multivariate effect of mode of data collection was obtained, $F(13, 299) = 1.93$, Wilks' lambda = .92, $p = .03$, partial eta squared = .08. Follow-up univariate analyses indicated that, relative to the participants who completed an online survey, the participants who completed paper-and-pencil questionnaires scored significantly higher on four items ("I have chosen to be an athlete," $p = .02$, partial eta squared = .02; "I am committed to being an athlete," $p = .006$, partial eta squared = .02; "I am sure that I want to be an athlete," $p = .01$, partial eta squared = .02; and "I have definitely decided that being an athlete is the occupation I want to pursue," $p = .01$, partial eta squared = .02). No significant effects of mode of data collection were found for age and the remaining eight items. The significant differences that were observed, however, do not appear to have affected the subscale, athletic identity foreclosure (present), and athletic identity foreclosure (future) scores, as the second MANOVA, $F(3, 309) = 2.53$, Wilks' lambda = .98, $p = .06$, partial eta squared = .02, and t tests (both $ts < 1.61$, both $ps > .10$) were not statistically significant.

Validation Sample 2: Assessing Test–Retest Reliability

Sport-related self-identity is susceptible to the influence of situational factors and may change over time (e.g., Brewer, Cornelius, Stephan, & Van Raalte, 2010; Brewer, Selby, Linder, & Petitpas, 1999; Grove, Fish, & Eklund, 2004). Nevertheless, it was expected that the scales created from the factor analyses and the indicator of athletic identity foreclosure would demonstrate at least moderate temporal stability over a 2-week period.

Method. After IRB approval was obtained, the subscales derived from the results of the factor analyses were administered to 54 intercollegiate student athletes at an NCAA Division III institution in the United States (34 women and 20 men) twice over a period of approximately 2 weeks. The mean age of the participants was 19.46 ($SD = 1.08$) years. The sports with the greatest representation in the sample of participants were lacrosse ($n = 9$), track and field/cross country ($n = 9$), field hockey ($n = 8$), American football ($n = 5$), baseball ($n = 5$), and soccer ($n = 5$). All data were collected via an online survey platform.

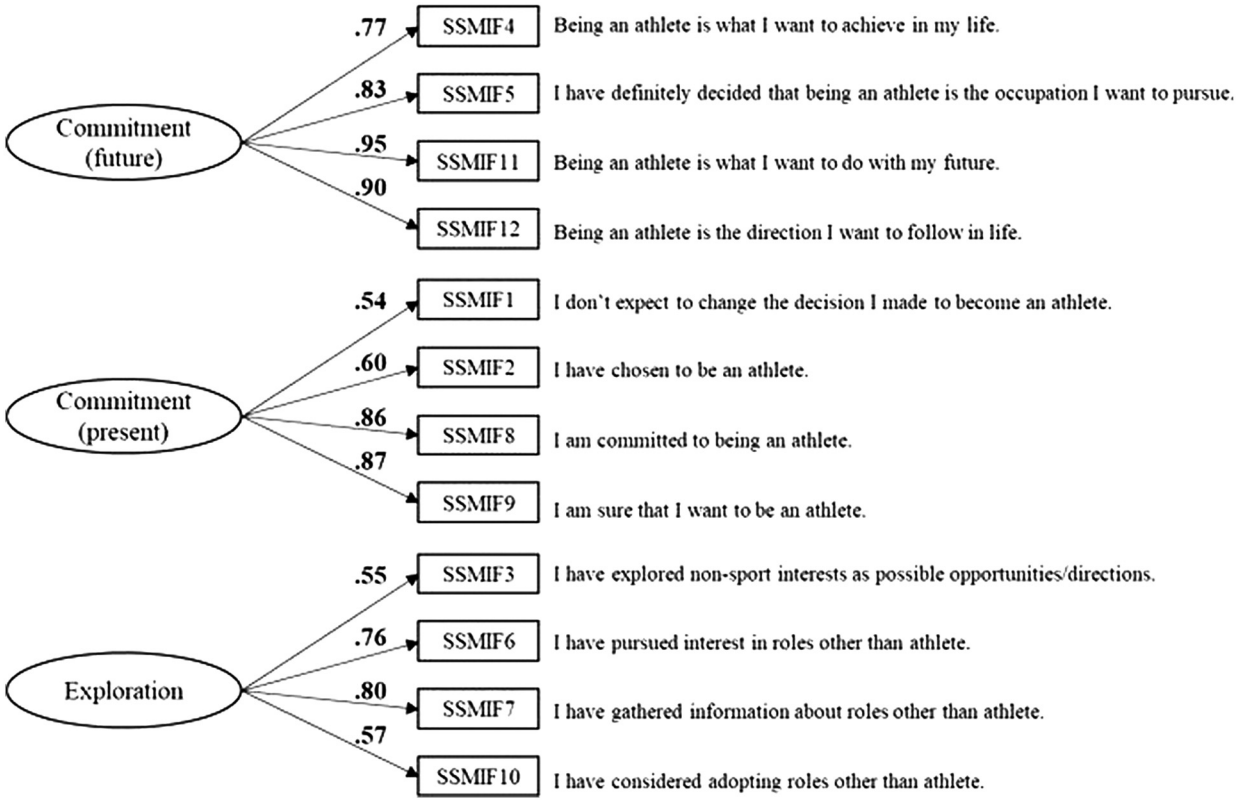

Figure 1 — Structural model and factor loadings of SSMIF items. SSMIF = Sport-Specific Measure of Identity Foreclosure.

Intraclass correlation coefficients based on a single rating, absolute agreement, two-way mixed-effects model were computed to assess test–retest reliability (Koo & Li, 2016). Intraclass correlation coefficients were calculated between the values obtained for the three subscales (i.e., commitment [future], commitment [present], and exploration) and overall athletic identity foreclosure scores at Time 1 and those obtained at Time 2. Two separate athletic identity foreclosure scores were calculated, one using the mean of the commitment (future) item scores and the other using the mean of the commitment (present) item scores, with the following formula: (commitment) (8 – exploration). Mean exploration item scores were subtracted from 8 to retain the positive orientation of the exploration while enabling the product of the two factors to reflect higher levels of athletic identity foreclosure (i.e., simultaneous high levels of commitment and low levels of exploration). Thus, both athletic identity foreclosure scores retain the essential features of identity foreclosure, but differ solely in terms of whether the focus of commitment is on the present day or extends into the future.

Results and discussion. The descriptive statistics are presented in Table 2. The results of the intraclass correlation coefficient analysis, which are displayed along with 95% confidence intervals in Table 3, show that scores for the three subscales and athletic identity foreclosure (both present and future) are stable over a 2-week assessment period.

Validation Sample 3: Examining Convergent Validity

To examine the convergent validity of the subscales created from the factor analyses and the indicator of athletic identity foreclosure, associations between the subscales and measures of athletic identity- and foreclosure-related constructs were explored. Positive associations were expected between (a) the commitment subscales and a measure of athletic identity and (b) the present and future indicators of athletic identity foreclosure and a more general identity foreclosure subscale. A negative association was hypothesized for the association between the exploration subscale and a more general identity foreclosure subscale.

Table 2 Test–Retest Reliability Coefficients and Descriptive Statistics for SSMIF Subscales in Validation Sample 2 (*N* = 54)

	Time 1		Time 2	
Variable	***M***	***SD***	***M***	***SD***
Commitment (future)	3.40	1.63	3.33	1.57
Commitment (present)	5.98	1.57	5.60	2.81
Exploration	5.48	1.07	5.57	1.10
Athletic identity foreclosure (future)	8.98	7.31	8.85	7.71
Athletic identity foreclosure (present)	15.07	7.69	14.14	7.53

Note. Scores for commitment (future), commitment (present), and exploration can range from 1 to 7. Scores for the two athletic identity foreclosure variables can range from 1 to 49. SSMIF = Sport-Specific Measure of Identity Foreclosure.

Table 3 Intraclass Correlation Analysis for Validation Sample 2

Variable	Intraclass correlation	95% confidence interval		*F* test with true value 0			
		Lower bound	Upper bound	Value	*df1*	*df2*	Sig
Commitment (future)	.85	.75	.91	11.88	53	53	.000
Commitment (present)	.80	.68	.88	9.26	53	53	.000
Exploration	.75	.60	.84	6.81	53	53	.000
Athletic identity foreclosure (future)	.89	.82	.94	16.87	53	53	.000
Athletic identity foreclosure (present)	.85	.76	.91	12.62	53	53	.000

Method. After IRB approval was obtained, a battery of questionnaires was administered via an online survey platform to 64 intercollegiate student athletes in the United States (39 women and 25 men). The mean age of the participants was 19.41 ($SD = 2.06$) years. All participants attended the same NCAA Division III institution. The sports with the greatest representation in the sample of participants were track and field/cross country ($n = 14$), swimming/diving ($n = 8$), soccer ($n = 7$), and gymnastics ($n = 5$). In addition to the items requesting demographic and sport participation information, the battery of questionnaires included the subscales created from the factor analyses, the seven-item version of the AIMS (Brewer & Cornelius, 2001; Brewer et al., 1993), and the foreclosure subscale of the OMEIS (Adams et al., 1979).

The AIMS is a seven-item questionnaire that assesses identification with the athlete role. Responses are given on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*), with higher scores corresponding to stronger and more exclusive identification. Brewer et al. (1993) presented support for the construct validity, internal consistency, and temporal stability of an earlier 10-item version of the scale, for which a correlation of .96 with the seven-item version has been documented (Brewer & Cornelius, 2001). An α of .71 was found for the AIMS in the current study.

The foreclosure subscale of the OMEIS (OMEISF) is a general measure of identity foreclosure that consists of six items (e.g., "I've never really questioned my religion. If it's right for my parents it must be right for me."). Responses are given on a 6-point Likert scale with endpoints of *strongly agree* and *strongly disagree.* Adams et al. (1979) presented evidence in support of the internal consistency ($\alpha = .76$) and convergent validity of the foreclosure subscale. Cronbach's α for the subscale in the current study was .73.

Results and discussion. Pearson correlations were calculated among the scales administered to the participants. The results of the correlational analysis are presented, along with descriptive statistics, in Table 4. As predicted, the commitment (present) and commitment (future) subscales were both positively associated with the AIMS. As with the hypothesized negative correlation between the

Table 4 Pearson Correlations Between SSMIF Scores and OMEISF, and AIMS Scores ($N = 64$)

Variable	*M*	*SD*	1	2	3	4	5	6
1 Commitment (future)	3.16	1.36						
2 Commitment (present)	6.14	0.78	.47***					
3 Exploration	6.04	0.76 to −.35**	−.04					
4 Athletic identity foreclosure (future)	6.55	4.91	.76***	.29*	−.83***			
5 Athletic identity foreclosure (present)	12.06	5.12	.46***	.34**	−.95***	.87***		
6 OMEISF	3.20	0.97	.19	−.09	−.17	.18	.12	
7 AIMS	5.06	0.85	.29*	.44**	−.04	.21	.17	.15

Note. Scores for commitment (future), commitment (present), and exploration can range from 1 to 7. Scores for the OMEISF can range from 1 to 6. Scores for the two athletic identity foreclosure variables can range from 1 to 49. AIMS = Athletic Identity Measurement Scale; OMEISF = foreclosure subscale of the Objective Measure of Ego Identity Status; SSMIF = Sport-Specific Measure of Identity Foreclosure.
*$p < .05$. **$p < .005$. ***$p < .001$

exploration subscale and the OMEISF, the correlations between the two (i.e., present and future) indicators of athletic identity foreclosure and the OMEISF were in the expected direction, but were not of sufficient magnitude to attain statistical significance. It is possible that the sport specificity of the survey items and the corresponding lack of sport-related item content of the OMEISF attenuated the associations. Although the direction of the (nonsignificant positive) association between the commitment (future) subscale and the OMEISF is not surprising, it is difficult to explain the direction of the (nonsignificant negative) association between the commitment (present) subscale and the OMEISF. Nevertheless, the pattern of correlations in Table 4 suggests that the two athletic identity foreclosure measures are related to measures of similar constructs in the direction expected, but assess a construct that is distinct from both athletic identity and general identity foreclosure.

General Discussion

Through his seminal investigation of student athletes, Petitpas (1981) brought the construct of identity foreclosure into the realm of sport. Although a limited body of research on athletes has accumulated using general indices of identity foreclosure (e.g., Brown et al., 2000; Good, Brewer, Petitpas, Van Raalte, & Mahar, 1993; Murphy et al., 1996), empirical progress has been impeded by the lack of a measure of the construct tailored to the sport context. Therefore, the current research was undertaken to develop an SSMIF. A pool of items was written and subsequently refined through internal review, expert review, and exploratory factor analysis. Psychometric analyses provided evidence in support of the internal consistency, factorial validity, temporal stability, and convergent validity of what was labeled the SSMIF.

The SSMIF items appear to be free of social desirability response bias, which may be of particular importance when examining associations between SSMIF scores and discernibly valenced outcomes (e.g., career development, mental health). The minimal overlap of the SSMIF athletic identity foreclosure indices with athletic identity and general identity foreclosure indicate that the SSMIF has the potential to contribute unique, theoretically grounded variance to the prediction of outcomes of interest. An important issue to resolve in future research is the relative utility of the future and present versions of the commitment subscale (and athletic identity foreclosure index). From the standpoint of the theoretical perspective undergirding the commitment construct (Erikson, 1959; Marcia, 1966), the emergence of a temporal dimension was neither anticipated nor intended. Nevertheless, the two versions of the commitment subscale can facilitate an exploration of the possibility that commitment (present) reflects a temporary investment in the athlete role, whereas commitment (future) corresponds to a perceived long-term investment. If this distinction is borne out, stronger associations with deleterious outcomes would be expected for athletic identity foreclosure (future) than for athletic identity foreclosure (present). Documenting such associations would serve the more general need to examine and establish the predictive validity of the SSMIF.

Another empirical issue to be addressed in future research concerns the relative weighting of commitment and exploration in calculating athletic identity foreclosure scores. In the absence of a theoretical rationale for doing otherwise (Erikson, 1959; Marcia, 1966), the formula used in the current study weights the two constructs equally. The possibility that weighting one construct over the other may enhance the predictive utility of athletic identity foreclosure scores warrants attention in future investigations.

Although the process undertaken to create the SSMIF followed many of the guidelines identified for scale development (DeVellis, 2003), it departed in some ways from contemporary best practices (Boateng, Neilands, Frongillo, Melgar-Quiñonez, & Young, 2018). For example, the initial pool of items was not evaluated by athletes for representativeness of the experience of athletic identity foreclosure, the pool of items was not pretested in multiple rounds with small groups of athletes, item difficulty was not evaluated, and discriminant validity of the SSMIF was not examined. Moreover, the initial pool of items was smaller than recommended (Kline, 2013). These departures from best practice guidelines constitute limitations of the current study. Fortunately, scale development is an ongoing process, and at least some of the limitations (e.g., examining discriminant validity) can be addressed in future investigations.

Clinical Implications

The SSMIF has important implications for student athlete programming. In addition to its utility as a research instrument, the measure has the potential to be used (a) as part of group career exploration/development programs for student athletes (identity work is a common part of career exploration/development interventions for sport populations), (b) in individual counseling to identify potential barriers to adjustment to transitions faced by student athletes (e.g., into college, injury, out of sport, out of college), (c) to tailor the content of group presentations to the current state of the

student athletes' identity development, (d) by academic athletic advisors to assist student athletes in the major selection process, and (e) to help identify student athletes at elevated risk for use of performance-enhancing drugs. The SSMIF can also be used to gauge the impact of interventions in which changes in identity are likely and considered desirable.

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