



The Impact of Person-Environment Fit on the Academic Satisfaction of Division II Student-Athletes

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Over the last decade, both the NCAA (“Life in the Balance,” n.d.) and the academy (Cooper, 2016; Huml, Svensson, & Hancock, 2017) have emphasized the importance of holistic student-athlete development. In fact, an emerging trend among Division I institutions is the construction of academic support centers designed to facilitate the academic and professional development of student-athletes. However, some scholars have questioned their overall effectiveness in achieving those ends (Huml, Hancock, & Bergman, 2014). Such facilities are not as common among Division II athletic departments, challenging those institutions to find other ways to maximize student-athlete development. The purpose of this study was to explore how perceived person-environment fit affects student-athlete academic satisfaction, one such measure of holistic development. Survey data was collected from 257 student-athletes at four different Division II institutions within one athletic conference. A hierarchical multiple regression determined that person-environment fit uniquely explained 9.7% of the variability in academic satisfaction. Additionally, the final regression model reported that person-teammate fit was a statistically significant, demonstrating the salience of interpersonal relationships among teammates. This article concludes with a discussion of practical implications for stakeholders within the Division II environment.

Keywords: person-environment fit, academic satisfaction, socialization, Division II

In April 2015, the National Collegiate Athletics Association (NCAA) adopted a six-year strategic plan for its Division II (DII) members (“Division II Strategic Plan,” n.d.). Its genesis was a decade-old survey of DII stakeholders (i.e., administrators, coaches, student-athletes, and college sports fans) that highlighted the important characteristics associated with the Division: Learning, Service, Passion, Sportsmanship, Resourcefulness, and Balance. The strategic plan was also informed by DII’s unique governing philosophy focused on holistic student-athlete development (“Life in the Balance,” n.d.).

The NCAA’s DII strategic plan has five components: 1) Academics and Life Skills; 2) Athletics Operations and Compliance; 3) Diversity and Inclusion; 4) Game Day and Championship; and 5) Membership and Positioning Initiatives (“Division II Strategic Plan,” n.d.). In addition, the plan emphasizes holistic student-athlete development through academic, athletic, and social growth, areas that scholars in intercollegiate athletics would support (Cooper, 2016; Huml et al., 2017). For the most part, DII stakeholders hold positive perceptions about the strategic plan (“2018 Division II Census Highlights”), which, at the time of this writing, the NCAA intends to extend through 2024 (“Division II Strategic Plan,” n.d.).

There are several potential challenges facing DII institutions seeking to meet the ambition set forth in the strategic plan. One of those challenges involves finding the resources to enhance the student-athlete experience. For instance, the state-of-the-art academic support services, full-time academic advisors, and professional development programming available to student-athletes at many Division I campuses are not as readily available within the more tightly budgeted DII environment (Kim, Kim, & Lee, 2019). In fact, some DII administrators have admitted that their department’s academic support of student-athletes is deficient (Nite, 2012). While administrators and coaches want to see their student-athletes live out the ideals in the strategic plan, finding the requisite resources can be a barrier (Kim et al, 2019; Nite, 2012, Huml, Hambrick, & Hums, 2016).

In light of recent events, the aforementioned financial challenges has become even more significant for intercollegiate athletic administrators. The global pandemic brought on by the novel Corona virus, has left experts predicting economic austerity across higher education (Hartocollis & Levin, 2020) and intercollegiate athletics (Anderson, 2020; Schlabach & Lavigne 2020) for years to come. The ripple effects of the shock to the U.S. economy will force many DII institutions to operate on even tighter budgets in both the short and long term (Bauer-Wolf, 2020; Jensen, 2020). Under these conditions, the ideal for improved student-athlete development opportunities may shift from “tough challenge” to “unrealistic expectation” for many DII administrators. Thus, absent the ability to add new programs, it is imperative for administrators and coaches to shore up the structures already in place in terms of student-athlete academic and social development.

In that spirit, this study utilized organizational theory to explore how the dynamics inherent in the intercollegiate sports team environment affect a student-athlete’s academic experience. Informed by person-environment (P-E) fit and organizational socialization, the results of the current study offer stakeholders in intercollegiate athletics guidance on how to leverage team dynamics in a way that positively affects student-athlete academic outcomes. Before presenting those results, the next section provides a more detailed review of student-athlete academic experience and the P-E fit framework.

Theoretical Framework

Before reviewing the literature around P-E fit theory, the researchers provide a short review of some recent studies concerned with the academic experiences of student-athletes. While highlighting research conducted in DII settings, this short review helps position the current study within the broader context of scholarship focused on the academic side of a student-athlete's identity.

Student-Athlete Academic Experience

The literature has investigated student-athlete academic achievement from multiple perspectives. Some have looked at metrics like GPA (Comeaux & Harrison, 2007; Grandy, Lough, & Miller, 2016), graduation rates (Clotfelter, 2019), and retention (Le Crom, Warren, Clark, Marolla, & Gerber, 2009). While others have taken a more subjective approach, and considered how student-athletes have felt about their academic achievement or performance (Carter-Francique, Hart, & Cheeks, 2015; Parsons, 2013; Rubin & Moses, 2017). Additionally, scholars have explored the ways in which psychosocial factors like academic motivation (Gaston-Gayles, 2005), learning disabilities (Stokowski, 2013), and isolation (Cooper & Dougherty, 2015), and sociocultural factors like race (Carter-Francique, Hart, & Cheeks, 2015; Cooper, Davis, & Dougherty, 2017), gender (Cooper & Jackson, 2019) and sexual identity (Turk, Stokowski, & Dittmore, 2019) affect a student-athlete's academic experience.

While studies on DII student-athletes are relatively scant, there are several examples that contextualize their academic experiences. Baucom and Lantz (2001) found that the negative cultural stereotypes falsely attached to student-athletes (i.e., "dumb jock") were pervasive among one DII institution's faculty. At one DII Historically Black College, empathetic faculty had a positive effect on student-athletes' academic experiences (Cooper & Hawkins, 2012). Similarly, another study found that academic performance rose as DII student-athlete interactions with faculty increased (Rankin, Merson, Garvey, Sorgen, Menon, Loya, & Oseguera, 2016). Other factors that impact DII student-athlete academic performance include scholarship status (Milton, Freeman, & Williamson, 2012) and the academic calendar (in-season compared to out-of-season; Scott, Paskus, Miranda, Petr, and McArdle, 2008).

It is worth noting that around 20% of DII student-athletes are first-generation college students, and over half (56%) worry about financing their education ("The First in their Family," 2016). Additionally, 42% of DII student-athletes indicated that the commitments to their sport left them less committed to academics ("Division II SCORE," n.d.), which could partially explain why DII student-athletes tend to identify more as "athletes" as opposed to "students" (Huml, 2018).

Person-Environment Fit

P-E fit describes the overall compatibility an individual has with their organizational environment (Edwards et al., 2006; Kristof, 1996) and implies there is a good match (or fit) between the individual's and the organization's characteristics (Kristof-Brown, Zimmerman, & Johnson, 2005). In organizational research, P-E fit has been linked to job satisfaction, commitment, turnover intention, and withdrawal – outcomes of high interest to those in general management and human resource management roles (see Kristof-Brown et al., 2005). In one

sense, P-E fit is somewhat easy to understand, as most people have experience in both types of environments; that is, good matches and bad matches. Yet, over the years, researchers have debated how to best operationalize the construct, which has earned it its “elusive” label (Edwards & Billsberry, 2010).

Levels of Fit. Recent advances in the literature have revealed the multiple and distinct levels at which individuals consider fit within their organization (Badger Darrow & Behrend, 2017; Chuang, Shen, & Judge, 2016). In fact, some have argued that P-E fit *cannot* rest on one or two factors alone (Andela & van der Doef, 2018) as individuals assess their fit in an organization through the combination and confluence of multiple environmental. The literature has arrived at four primary factors or levels of fit: person-organization (P-O fit), person-job (P-J fit), person-group (P-G group), person-supervisor (P-S fit),

Person-organization fit. Organizational culture plays a central role in P-O fit, which assesses the fit an individual has with the organization’s values and norms (Kristof, 1996). P-O fit is understood as both the “congruence between the norms and values of organizations and the values of persons” (Chatman, 1989, p. 339) and/or the congruence between individual goals and organizational goals (Kristof-Brown et al., 2005). In either case, the P-O fit is of particular importance during recruitment – when an employee is contemplating whether or not to join an organization – and when an individual reaches tenure (i.e., more than 12-18 months in an organization; Jansen & Kristof-Brown, 2006). Because P-O fit is centered around values and goals, it also becomes particularly salient during organizational change (Meyer, Hecht, Gill, & Toplonytsky, 2010).

Person-job fit. This level refers to the perceived balance between the specific role(s) or task(s) associated with an individual’s job and their ability to successfully fulfill them (Kristof-Brown et al., 2005). P-J fit is understood as either the extent to which an individual’s knowledge, skills, and abilities serve a need in the organization (Edwards, 1991) or the extent to which an individual’s desires and preferences are manifested through their tasks and roles (Cable & De Rue, 2002). Imbalance in one’s P-J fit can lead to job withdrawal (Kristof-Brown et al., 2005). On the other hand, employees who challenge themselves through expanded roles and responsibilities can positively impact their sense of P-J fit (Tims, Derks, & Bakker, 2016).

Person-group fit. P-G fit exists when there is harmony among and between the members of a work group or organizational team (Young Seong & Kristof-Brown, 2012). Of the various levels of fit, research on P-G is most nascent, due in part to deficient theoretical attention and inconsistent measurement (Li, Kristof-Brown, & Nielsen, 2019). P-G fit is influenced by perceived similarities in values, goals, interests, workstyle, attributes, and even demographics (Li et al., 2019). Supplementary fit among groups impacts social cohesion, whereas complementary fit implies work teams effectively coordinate and leverage individual skill sets within group (i.e., “the whole is greater than the sum of its parts”; Kristof-Brown, Young Seong, Park, Hong, & Shin, 2015).

Person-supervisor fit. This level considers the fit within unique dyadic relationships like subordinate and superior, mentee and mentor, or student-athlete and coach. P-S fit has been investigated through the lenses of value congruence, goal congruence, or personality type (Tak, 2011), and has been found to moderate the relationship between leaders’ moral competence and follower empowerment (Kim & Kim, 2013). Interestingly, a meta-analysis of P-E fit found that P-S fit had the weakest relationships with the other levels of fit “[which suggests] employees do

not view superiors as isomorphic representations of the organization” (Kristof-Brown et al., 2005, p. 316).

As noted in Su, Murdock, and Rounds (2014), conceptualizing P-E fit as a multilevel construct “does not preclude the possibility of overlap or mutual influence among various forms of fit” (p.85). Indeed, it is possible – and even logical – that a sense of mutual compatibility within a work team (i.e., P-G fit) may boost each individual’s positive perception of the overall organizational culture (i.e., P-O fit). Or, that getting along well with one’s supervisor (i.e., P-S fit) may serve to enhance one’s perception of their role (i.e., P-J fit).

Outcomes of P-E Fit. Despite the aforementioned elusiveness, P-E fit has maintained the attention of organizational scholars, perhaps in part due to its consistent relationship to important organizational outcomes. Kristof-Brown et al.’s (2005) meta-analysis sampled 172 studies and found moderate-to-strong relationships between job satisfaction and P-J (.56), P-O (.44), P-S (.44), and P-G (.31) fits, as well as intent to quit and P-J (-.46), P-O (-.35) fits (Kristof-Brown et al., 2005). To illustrate the depth of the P-E fit literature, recent efforts have observed the following relationships: between P-O fit and job withdrawal (Tak, 2011) and organizational citizenship behaviors (Afsar & Badir, 2016); P-J fit and job crafting (Tims, Derks, & Bakker, 2016); P-G fit and cohesion (Seong et al., 2015) and transformational leadership (Charlton & Eschleman, 2019); and P-S fit and organizational commitment (Astakhova, 2016).

P-E Fit in Intercollegiate Athletics. The intercollegiate athletics literature has only just recently explored P-E fit. For instance, Oja, Schaeperkoetter, and Clopton (2015) utilized a P-O fit framework in their analysis of job satisfaction and turnover intention among NCAA DI-III coaches. Similarly, Welty-Peachey and Bruening’s (2012) case study explained how a sense of P-O fit among student-athletes helped them during a period of organizational change within the intercollegiate athletic department. Magnusen, Kim, Perrewé, and Ferris (2014) coined the term “person-recruiter fit” in their description of the recruiting strategies used by coaches to appeal to a prospective recruit’s perception(s) about how they might fit in their program.

Yet, the above studies were conducted through the perspective of coaches and/or administrators. While P-E fit theory has not been used in a study of student-athletes, there is certainly a well-developed literature on team dynamics and in college sport, including similar constructs like organizational culture (Jayakumar and Comeaux, 2016; Schroeder & Scribner, 2006; Yukelson, 1997) and team cohesion (Aoyagi, Cox, & McGuire, 2008; Ha & Ha, 2015; Halbrook, Blom, Hurley, Bell, & Holden, 2012; Smittick, Miner, & Cunningham, 2019).

Organizational Socialization

Defined as “the process by which an individual comes to appreciate the values, abilities, expected behaviors, and social knowledge essential for assuming an organizational role and for participating as an organizational member” (Louis, 1980, pp. 229-230), the intention of organizational socialization is to reduce the uncertainty in both the newcomer and the organization following a hire (Van Maanen & Schein, 1979). One’s socialization experiences (e.g., orientation, social outings, evaluations) can impact their P-E fit perceptions (Jansen & Kristof-Brown, 2006). For instance, if a student-athlete has a good experience with a coach during their recruitment they may have heightened perception of fit with their coach in their early days with the team. On the other hand, more tenured student-athletes may build close

interpersonal relationships through social outings, and as a result, develop a tight fit with teammates.

Newcomers to college sport teams find themselves entering socially tight-knit, competitive environments with complex hierarchical structures (Benson et al., 2016). Thus, like new employees, athletes rely on socialization processes to navigate the new environment, learn their tasks and roles, and make sense of the team's culture. For instance, both formal (e.g., team practices, meetings with coaches, weight training) and informal (e.g., social outings, conversations with teammates, academic settings) processes may contribute to student-athlete socialization.

Method

As the extant P-E fit literature so convincingly connects the construct to job satisfaction, the researchers were curious about whether that finding extends to sport team environments. That is, if a good fit within one's team environment relates to a satisfying academic experience. Therefore, the purpose of the current study was to explore the relationship between perceived P-E fit and academic satisfaction among Division II intercollegiate student-athletes. The current study was part of a larger research project; however, the scope of this study was guided by the following research question: How does a student athlete's perceived P-E fit impact their academic satisfaction?

Participants and Procedures

The researchers utilized personal contacts to obtain a convenience sample of student-athletes from four different small, private, liberal arts, religious-affiliated DII institutions. All four institutions are members of the same athletic conference. With athletic directors and coaches serving as conduits, an invitation email was sent to all student-athletes at each institution, generating a sample of 940 student-athletes. The invitation email included an informed consent statement and a link to the survey instrument (hosted on Qualtrics). A reminder email was sent to each student-athlete approximately two weeks following the initial invitation. Of the 940 student-athletes invited to participate, 257 responded to the questionnaire, equaling a response rate of 27.3%. See Table 1 for the response rate at each institution.

Table 1

Institutional Response Rates

Institution	<i>N</i> = 257	<i>N</i> = 940	Response Rate	% of Total Responses
A	61	294	20.7	23.7
B	102	332	30.7	39.7
C	12	118	10.2	4.7
D	82	196	41.8	31.9

In terms of gender, 143 of the respondents identified as female (55.6%) and 112 identified as male (43.6%). Two respondents (0.8%) self-described their gender. With respect to race and/or ethnicity, 213 respondents (82.9%) were Caucasian/White, 16 (6.2%) were Black/Non-Hispanic, 8 were Hispanic (3.1%), 4 (1.6%) were Two or More Races, 4 (1.6%) Self-

Described, and 2 (0.8%) were Asian American or Asian. The sample included 11 different sports and 15 different varsity programs. Just over two-thirds (69.6%) of the sample played interdependent sports (i.e., Basketball, Soccer, Lacrosse), while the remaining 30.4% played on independent sport teams (i.e., Cross Country, Golf, Tennis).

Table 2
Sport Team Affiliation of Respondents

Sport	# of responses	Percentage
Baseball	20	7.8
Basketball (Men's)	10	2.3
Basketball (Women's)	28	10.9
Cross-Country (Mixed Gender)	6	2.3
Football	4	1.6
Golf (Men's)	6	2.3
Golf (Women's)	11	4.3
Lacrosse (Women's)	2	0.8
Soccer (Men's)	45	17.5
Soccer (Women's)	26	10.1
Softball	30	11.7
Tennis (Men's)	1	0.4
Tennis (Women's)	2	0.8
Track and Field (Mixed Gender)	54	21.0
Volleyball (Women's)	12	4.7

In terms of academic rank, student-athletes in their first or second year at their institution were the most frequent responders. First year student-athletes made up 32.3% of the sample and 24.9% were second year students. Third year students represented 21.8% of the sample and fourth year students accounted for 14.0%. Just 3% of the sample were student-athletes with more than four years in college. The average GPA was 3.40.

Instrumentation

Beyond the demographic items, the questionnaire used several previously developed scales from the literature. Scales from the Perceived Person-Environment Fit Scale (PPEFS; Chuang et al., 2016) were used to measure P-O, P-J, P-G, and P-S fit. The questionnaire also included the Sport Team Socialization Tactics Questionnaire (STSTQ; Benson & Eys, 2017) to capture organizational socialization. Finally, academic satisfaction was captured via a single item. In total, the questionnaire included 50 items.

P-E Fit Measures. In the current study, P-E fit represented the focal variable and was treated as a latent construct and captured via the four levels of P-E fit described above. The PPEFS (Chuang et al., 2016) was developed and validated in a series of studies in a workplace setting, and a four-factor (PJ, PO, PG, PP), seven-subscale model of P-E fit was achieved. The instrument demonstrated appropriate reliability – each subscale achieved acceptable Cronbach’s alpha estimates (PJ = .84, PO = .91, PG = .89, PS = .90) – and passed subsequent checks on construct, discriminant, and criterion validity.

For this study, some of the language of the PPEFS was modified to better fit the context of the current research. For example, an item stating, “How would you describe the match between your personality and your *supervisor’s* [emphasis added] personality?” was changed to “How would you describe the match between your personality and your *coach’s* [emphasis added] personality?”

To this point, the researcher chose to denote the P-E fit variables as follows: person-team fit (P-T; from P-O fit); person-role fit (P-R; from P-J fit); person-teammate fit (P-TM; from P-G fit); person-coach fit (P-C; from P-S fit). This modification provided clarity and context around the relationships within the intercollegiate athletic team environment while remaining conceptually consistent with P-E fit. P-T fit was measured via two subscales, P-R fit was measured through one subscale, P-TM fit was measured via three subscales, and P-C fit was measured through one subscale of four items. All items were presented on a 6-point Likert scale, in which “1” represented “No Match” and “6” represented “Complete Match.” In the current study, the Cronbach alpha for each fit variable indicated good internal reliability: P-T fit ($\alpha = 0.83$); P-R fit ($\alpha = 0.74$); P-TM fit ($\alpha = 0.89$); P-C fit ($\alpha = 0.89$; DeVellis, 1991).

Organizational Socialization Measures. Organizational socialization was added to the research design as a covariate due to its theoretical link to P-E fit (Jansen & Kristof-Brown, 2006). The 13 items from the STSTQ were added to the instrument to capture student-athlete socialization perceptions. Developed through a series of studies on Canadian Interuniversity Sport teams, the STSTQ represents a three-factor model of socialization (Benson & Eys, 2017). These three factors are represented as follows: coach-initiated role communication (e.g., a coach establishing academic expectations with student-athletes); serial socialization (e.g., interactions between team veteran and newcomer); and social inclusion (e.g., organized team dinners). For this study, all items were presented on a 6-point Likert scale, in which “1” represented “Strongly Disagree” and “6” represented “Strongly Agree.” Sample item: “When new student-athletes join our team... coaches clearly state what newcomers need to accomplish to acquire a more prominent role in competitive situations.” In the current study, the Cronbach alpha for each socialization tactic indicated good internal reliability: coach-initiated communication ($\alpha = 0.91$); serial ($\alpha = 0.80$); social inclusion ($\alpha = 0.85$; DeVellis, 1991).

Academic Satisfaction Measures. Higher education scholars have contended that academic satisfaction among college students is conceptually similar to job satisfaction among employees (e.g., Lent, Singley, Sheu, Schmidt, & Schmidt, 2007; Trapmann, Hell, Hirn, & Schuler, 2007), representing one’s sense of expectation versus reality. The current study operationalized academic satisfaction as one’s perception of their academic experience.

In terms of instrumentation, the current study followed the advice of Wanous, Reichers, and Hudy (1997), whose meta-analysis found that job satisfaction can be reliably assessed through a single item. Therefore, participants responded to the following item regarding

academic satisfaction (6-point Likert scale [1=Strongly Disagree and 6=Strongly Agree]):
 “Overall, I feel satisfied with my academic experience at <institution>.”

Table 3
Descriptive Statistics for Scales

Scale	Total # of Items	Missing Responses (%)	Mean	SD	Cronbach's alpha
Person-Role Fit	5	0.8	4.71	0.86	0.74
Person-Team Fit	7	1.9	4.75	0.87	0.83
Person-Teammate Fit	13	2.3	4.48	0.84	0.89
Person-Coach Fit	4	0.8	4.46	1.19	0.89
Socialization – Coach	7	5.1	4.16	0.95	0.91
Socialization –Inclusion.	3	3.9	4.35	1.07	0.85
Socialization – Serial	3	3.9	4.64	0.96	0.80
Academic Satisfaction	1	0.0	4.88	0.97	-

Analysis

Data were treated and analyzed in SPSS Statistics 23. Pairwise deletion was used to address the missing values, which accounted for fewer than 3% of total responses. Mean scores were calculated for each of the P-E fit and organizational socialization variables. Prior to running a multiple regression, the researchers reviewed the appropriate assumptions. Stevens (2012) held that 15 participants per predictor variable were sufficient for multiple regression, while Tabachnick, Fidell, & Ullman, (2007) suggested that the sample should be $50 + 8m$ (where m = total independent variables). With an n of 257, the sample for this study is in line with those recommendations. To check normality, data were visually inspected via histograms, box plots, and Q-Q plots. Additionally, the 5% Trimmed mean statistic suggested that outlier data were not heavily influential. For each scaled variable, skewness and kurtosis indicators were within ± 2 level of acceptability (Gravetter and Wallnau, 2014). Linearity and homoscedasticity assumptions were satisfied via scatterplot analysis. Finally, all VIF values were below 3.8 and all Tolerance levels were above 0.25. Thus, the assumption for multicollinearity was met.

Results

The current study sought to explore the relationship between perceived P-E fit and academic satisfaction among Division II intercollegiate student-athletes, and was guided by the following research question: How does a student athlete's perceived P-E fit impact their academic satisfaction? To that end, the researcher observed the variability in academic satisfaction that could be explained by P-E fit via a hierarchical multiple regression analysis.

Multiple Regression Analysis

A three-step hierarchical multiple regression was run to model the impact of P-E fit on academic satisfaction. The first step of the analysis included demographic variables: gender of

team, race, academic rank, GPA, scholarship status, and transfer status. This initial model was statistically significant and accounted for 14.6% of the variance in academic satisfaction ($F(7, 227) = 5.54, p < 0.01$). GPA was the only statistically significant predictor ($\beta = 0.34$).

In the second step of the analysis, organizational socialization was added to the model. The regression model remained statistically significant and explained an additional 4.5% of the variance in academic satisfaction ($F(10, 224) = 5.29, p < 0.01$). However, none of the socialization variables were statistically significant predictors.

In the third step, the P-E fit variables were added, lifting the variance explained from 19.1% to 28.8%. The final model was statistically significant ($F(14, 220) = 6.36, p < 0.01$). Thus, independent of demographic factors and organizational socialization, P-E fit uniquely explained 9.7% of the variability in academic satisfaction. In this final model, GPA ($\beta = 0.32$) and academic rank ($\beta = 0.22$) also emerged as statistically significant. As with the second model, none of the socialization variables were statistically significant. P-TM fit ($\beta = 0.32$) was the sole statistically significant predictor of academic satisfaction among the P-E fit variables.

Discussion

As a theoretical framework, P-E fit remains relatively absent from intercollegiate athletics and sport management research. In organizational research, the construct is linked to vital outcomes like job satisfaction, turnover, and job withdrawal (Kristof-Brown et al., 2005). While student-athletes are not considered employees of their institutions, the nature of the relationship an athlete has with their team is similar to the relationship an employee has with their organization (Cranmer, 2016). Furthermore, scholars have contended that the structures, hierarchies, and goal-setting activities of sports teams mirror those in organizations or businesses (Chelladurai, 2014) and that “the extension of [the] organizational framework to sport is natural” (Cranmer, 2016, p. 350). Given our results, the researchers would argue that the continued application of organizational theory to college sport team environments is likely to uncover findings of value to stakeholders across college sport. To that end, later in this section the researchers offer some suggestions concerning the application of P-E fit theory to future research.

The study incorporated four levels of P-E fit to determine which – if any – aspects of the team environment are particularly salient for academic satisfaction. The regression models presented in the previous section point to several key indicators of academic satisfaction among this sample of DII student-athletes. This discussion will first focus on interpreting these variables in comparison to the literature, before concluding with implications of the study’s findings for administrators, coaches, and student-athletes.

Interpretation of the Independent Variables

Four levels of P-E fit were examined in this study: P-T, P-R, P-TM, and P-C. The final multiple regression found that independent of several demographic factors and socialization tactics, P-E fit uniquely explained 9.7% of the variability in student-athlete academic satisfaction. Overall, the final model explained 28.8% of the variability and was statistically significant ($F(14, 220) = 6.36, p < 0.01$).

Table 4
Summary of Hierarchical Multiple Regression for Academic Satisfaction

Variable	Model 1		Model 2		Model 3	
	B	SE B	B	SE B	B	SE B
Demographics						
Team Gender	.05	.12	.04	.12	-.02	.12
Non-White	-.13	.17	-.10	.17	-.02	.16
Academic Rank	.08	.05	.10	.05	.18	.05
GPA	.69	.14	.63	.14	.65	.13
Ath. Scholar.	-.10	.15	-.06	.15	-.05	.14
Aca. Scholar.	.00	.18	-.05	.18	.01	.17
Transfer	-.38	.20	-.36	.29	-.34	.18
Socialization						
Soc. – Coach			-.06	.08	-.17	.09
Soc. – Serial			.16	.09	.04	.09
Soc. – Inclusion			.10	.07	.08	.07
PE Fit						
PR Fit					-.07	.07
PT Fit					.02	.12
PTM Fit					.37	.14
PC Fit					.18	.07
Change in R²						
R ²	.15**			.05**		.10**
F for change in R ²	.15**			0.19**		.29**
	5.55**			4.14**		7.48**

Final Model F Statistics: Academic Satisfaction – F(14, 220) = 6.36, p < .001

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Person-teammate fit ($\beta = .32$) surfaced as a statistically significant predictor in the final model, implying that companionship and the perception of “fitting in” among teammates positively impacts academic satisfaction. This finding may be partly explained by Rubin and Moses’ (2017) research on academic subcultures within college athletic departments and, in some cases, individual teams. Their work intimated that teammates have ways of holding one another accountable for academic performance, especially when they share a class or a major. As one student-athlete in their study put it: “We all want to see each other be successful...you don’t want to see any of your teammates go through all this and not come up with something at the end” (Rubin & Moses, 2017, p. 325).

The literature contains other examples of the unique sway student-athlete teammates hold on one another. Bimper and Harrison (2013) described how Black, male student-athletes at one institution valued looking out for each other’s academic interests, since they did not always perceive that coaches and administrators were doing so. Another possible explanation for P-TM fit’s impact on academic satisfaction comes from the higher education literature, specifically Bowman and Denson’s (2014) conclusion that student friendships were paramount in a student’s overall college satisfaction.

Good interpersonal relationships with one’s teammates can protect against negative behaviors like depression (Hagiwara, Iwatsuki, Isogai, Van Raalte, & Brewer, 2017), eating disorders (Scott, Haycraft, & Plateau, 2019) and burnout (Gabana, Steinfeldt, Wong, & Chung, 2017), and encourage positive behaviors like psychological need satisfaction (Raabe & Zakrajsek, 2017), strong team culture (Weiss & Robinson, 2013), and organizational citizenship behaviors (Aoyagi et al., 2008; Love & Kim, 2019). This study adds to this growing literature by affirming that a sense of fit among teammates encourages academic satisfaction.

Interestingly, none of the other levels of fit – P-T, P-R, and P-C – were statistically significant predictors of academic satisfaction. Student-athletes often disassociate their coaches from the academic domain (Cooper & Hawkins, 2012; Simons, Van Rheenen, & Covington, 1999), which may be the reason P-C and P-T were not as impactful on academic satisfaction. After all, an intercollegiate athletic team’s culture often follows the leadership style and values put forth by the head coach (Schroeder, 2010).

Among the demographic variables in the regression model, GPA and academic rank were significant predictors of academic satisfaction. Based on the literature, this finding was not particularly surprising. GPA is a consistent indicator of academic performance among student-athletes (Johnson et al., 2010; Milton et al., 2012) and non-student-athletes (Komarraju, Ramsey, & Rinella, 2013). As participants advanced in academic rank (i.e., first year, second year, third year, fourth year), the model expected their academic satisfaction would rise as a result. A possible explanation for this finding is that longer tenured student-athletes (i.e., Juniors and Seniors) who are a couple of years into their program(s) of study(ies) or academic major may have a better sense of their academic path than do first or second year student-athletes and therefore feel more satisfaction in their academic experience.

Implications

This research aimed to provide administrators, coaches, and student-athletes information that can serve them as they navigate the DII terrain. Additionally, as intercollegiate athletics is faced with quite uncertain times, this research sought to highlight factors concerning P-E fit that those stakeholders can leverage to improve academic experiences.

Implications for Administrators. The findings offer administrators a few possible strategies for improving student-athletes' academic experience. First, administrators would be advised to look to teammate networks as a means of promoting academic achievement and satisfaction. For instance, an academic advisor who finds themselves a one-person operation at their school could establish intra- or inter- team programs that encourage teammates and/or student-athlete peers to hold one another academically accountable. Additionally, working with the coaching staff, the advisor may deliberately pair up tenured student-athletes with newcomers in a sort of peer mentor relationship. As another example, senior administrators could provide coaches support and resources for in- and off-season team-building exercises with the intention of promoting a sense of fit among teammates. Still another example is to follow Huml, Bergman, Newell, & Hancock's (2019) recommendation for summer bridge programs as a way for student-athletes to establish important social connections prior to the academic stresses and challenges that accompany one's first year as a student-athlete (Clift & Mower, 2013). Indeed, the results of the current study predicted academic satisfaction would be lowest among first-year student-athletes.

Implications for Coaches. Coaching intercollegiate athletics, at any level, is not an easy endeavor. While working non-traditional hours, coaches are expected to both sustain successful athletic programs and develop student-athletes on and off the field of play. As Huml et al. (2016) noted, with the limited academic support available to student-athletes within their athletic department, coaches at DII institutions take on more academic involvement with student-athletes than desired out of necessity.

While the job has its challenges, college coaches need to be cognizant of the unique impact they have on their student-athletes' experience in college. Although it was not statistically significant, the results of this study observed a small but negative effect size in the relationship between coach-initiated role communication and academic satisfaction. Coach-initiated role communication is a socialization tactic in which the coach establishes expectations with their student-athletes. The regression model's prediction that academic satisfaction would decrease given a rise in coach-initiated role communication should alarm coaches that desire to be positive influences on their student-athletes' academic experience.

Similar to the roles of administrators, coaches should recognize the positive influence the sense of fit among teammates can have in relation to academics. Coaches should encourage, if not create, opportunities for teammates to bond during and away from team activities. An important aspect of P-TM fit is sharing values and goals. Thus, coaches should help teammates identify areas in which their individual values and goals align.

Implications for Student-Athletes. The findings in this study offer student-athletes implications concerning ownership of their academic experience while on campus. The results of this study highlight the return on investment student-athletes may receive in the form of academic satisfaction through positive group dynamics. The tenured student-athletes on a team ought to seek out relationships with newcomers and help them learn about the values important to the team's culture, as well as the expectations and responsibilities associated with team membership. This passage from Benson et al.'s (2016) research on Canadian interuniversity student-athletes, highlights this point exactly:

...athletes emphasized that the initial and continued social support from

experienced group members eased many of the difficulties they experienced that initial year: ‘You don’t want to be in first year and go to coach and be like ‘why am I not playing?’ So just going to [veteran teammates] to help talk to you, help you feel good, any advice, *academics* [emphasis added], help you train to get better, anything really; it’s like a big sister. (p. 469)

Future Research

Broadly speaking, the findings of this study are consistent with the findings in the organizational literature. That is, P-E fit has a low-to-moderate effect on satisfaction. The current study identified P-TM fit as a particularly important factor on student-athletes’ academic satisfaction. Interestingly, of the four levels of P-E fit, P-G fit (the conceptual equivalent of P-TM fit) consistently has the weakest relationship with job satisfaction (Kristof-Brown et al., 2005). This difference highlights the unique nature of competitive sport teams – bonds formed with teammates and coaches are different and perhaps more meaningful than bonds formed with co-workers. Using the P-E fit framework or otherwise, future research should further examine relationships among student-athlete teammates and associated outcomes. The negative relationship found between P-C fit and academic satisfaction identifies an area for coaching scholars to explore; how and when does a coach influence the academic experience of their student-athletes?

Given the lack of P-E fit research in college sports, the literature would benefit from replication of this design. The combination of the convenience sample and a rather homogenous population (i.e., four schools of like size in one athletic conference), limited the generalizability of the results. Future research may consider Division I and III settings. At high-level Division I settings, some student-athletes rely on their sport participation to fully subsidize their education via scholarship, therefore, may hold unique perceptions of P-E fit. While most DI and DII student-athletes default to their “athlete” identity over their “student” identity, DIII student-athletes default to “student” over “athlete” identities (Huml, 2018). Thus, DIII student-athletes may also have unique perceptions concerning P-E fit.

The results in this study also underscore the need for research that examines how demographic factors impact student-athlete outcomes. The analysis did not identify any social and cultural identities (e.g., gender, race, ethnicity) as significant predictors of academic satisfaction. However, given the documented inequities in college sports based on gender, race, ethnicity, sexuality, etc., future research should examine how and when those type of demographic variables impact P-E fit.

The literature would benefit from studies designed around level of P-E fit. Given the current study’s finding regarding P-TM fit, a future effort may focus on that specific level of fit. In addition, the other outcomes associated with P-E fit in the organizational literature (i.e., commitment, job withdrawal, organizational citizenship behaviors, et al.; Kristof-Brown et al., 2005), should be tested in college sport team environments. Does P-E fit impact the commitment or burnout among student-athletes?

Finally, previous scholars have theorized that P-E fit evolves temporally (Jansen & Kristof-Brown, 2006; Magnusen et al., 2014). That is, P-E fit changes over time as individuals advance from recruiting, to hiring, through socialization, and to tenure. Longitudinal research could be particularly helpful in revealing temporal effects of PE fit. Survey research could track

how student-athletes' fit perceptions adjust over the various periods of time, and how that evolution impacts team and individual outcomes

Limitations

Several limitations must be acknowledged. First, the convenience sample was drawn from four similar institutions within one athletic conference. At all sample institutions the survey was administered in the second half of the Spring semester. The timing of this study coupled with an overall survey fatigue of college students (Adams & Umbach, 2016) likely impacted non-respondents in this study, who may have had perceptions that systematically varied from the respondents. In addition, the analyses did not consider the potential "seasonal" effect of responses. Of the 257 responses, 147 were from student-athletes whose team was in-season during the time of the survey (e.g., softball, baseball) or whose season just ended (e.g., basketball). The other 110 responses represented student-athletes whose seasons ended during the fall semester and were in their off-season. Student-athletes who are either nearing the end of – or just ended – a long season, may have different perceptions than peers whose season had been over for a few months.

Another limitation is related to the construction of the questionnaire. While each scale was taken from previously validated literature, only the organizational socialization items and were previously tested on college student-athlete populations. In fact, the researcher modified the wording in the P-E fit items to fit the context of intercollegiate athletics. Though the results found that all scales met acceptable internal consistency, a pilot test could have identified areas to improve the instrument.

Another limitation is found in the administration of the questionnaire. The researcher was not provided direct access or contact with the sample population. Ideally, potential participants could have been emailed the research cover letter and the link to the questionnaire directly. However, athletic directors and coaches at each institution acted as conduits to the sample population. There were sports at each institution that were not represented in the data. It is possible that the invitation email never made it to student-athletes in some sports. Those student-athletes may have responded differently than others in the sample.

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