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Student-Athletes' Road to Success in College Life: Factors Influencing Psychological Well-being, Athletic, and Academic Performance

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This study examined factors influencing college student-athletes' athletic and academic performance built upon self-determination theory and the theory of planned behavior. With intrinsic and extrinsic motivation for collegiate athletics, student-athletes can shape attitudes, subjective norms, and perceived control, fostering psychological well-being. Psychological well-being could influence performance in athletics and academic achievements. Voluntary student-athletes contacted by coaches participated in the survey. A total of 262 responses from NCAA Division I schools were collected. A mixed-methods approach, consisting of survey responses and interview data, was implemented. Results found psychological well-being played the most salient role in explaining student-athletes' athletic and academic performance self-assessments. With self-growth motivation (intrinsic), the "I can do" spirit was positively related to their psychological well-being, which triggered better athletic and academic performance. Inspirational role models (extrinsic motivation) also prompted psychological well-being. Intrinsic motivation independently affected student-athletes' self-assessed academic performance. The findings suggest self-reliant growth, supportive inspiration, and a success mindset explain student-athletes' disciplined fulfillment, competence, and compassion for current and future development in collegiate athletic and academic lives.

Keywords: student-athletes, psychological well-being, motivation, athletic performance, academic performance

Student-athletes' psychological well-being has been a long-standing interest in academia as they frequently experience risks and challenges in both physical and mental wellness. Student-athletes are vulnerable to body injuries (e.g., Dart, 2021; Podlog, 2020) and psychological distress (e.g., Bissett & Tamminen, 2022; Cosh et al., 2024), which demand therapeutic treatments for a sustainable athletic life. While

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some student-athletes have a chance of turning into top-tier professional athletes for a fulfilling life, some others need to enter the non-athletic world for everyday life. Two key performance indicators (athletic and academic) are central to student-athletes' interests because both can determine their future (Levine et al., 2014; Malone et al., 2022).

For such reasons, much academic attention has been directed toward student-athletes' psychological well-being, examining both precedents and consequences. Psychological well-being can be defined as having a positive sense of meaning or purpose in life (Ryff & Keyes, 1995). Psychological well-being differs from clinical mental well-being, which focuses on managing mental disorders, illnesses, psychosocial disabilities, distress, and functional impairments (Grover et al., 2024). Psychological well-being pertains to how people perceive lives and evaluate life situations, offering a broader perspective than clinical mental well-being.

Some studies view student-athletes as an at-risk population due to their low level of empowerment (Moore, 2016), low psychological well-being (Beauchemin, 2014), enhanced psychological well-being through intervention (Podlog et al., 2020), and maintenance of dual identities between athletic and academic activities (van Rens et al., 2019). Such concerns are attributed to long absences from classes, limited leisure time, financial uncertainty, reduction of training due to education, and overload feelings (Condello et al., 2019). While student-athletes receive close attention and become public figures when their teams perform well, they also may need to strengthen their future potential in a non-athletic field.

Although research studies on student-athletes suggest psychological well-being should be a top priority for a successful athletic life, the explanatory components of positive psychological well-being among student-athletes remain in question. There are precedents of psychological well-being that drive up positive human relations with others, purpose in life, and environmental mastery. Incentivized motivation, attitudes, others' influence, and self-control posit as substantial influencers for psychological well-being (De Vos et al., 2021; Watson et al., 2021). A theory that considers motivational factors is self-determination theory. Self-determination theory (SDT) states self-regulative motivation prompts subsequent mobilization through willful mindsets and psychological interdependence with others to reach behavioral fulfillment (Deci et al., 1999). In turn, planned behavior components act as driving forces enriching psychological well-being. To supplement self-determination theory, the theory of planned behavior (TPB) recounts the relationships between motivation and processing components toward behaviors (Ajzen, 1991). As such, there is interdependence between SDT and TPB in explicating and strengthening the psychological well-being model, indicating student-athletes' psychological well-being can be articulated by adopting the two theories.

This study examines the relationships among college student athletes' motivation, attitude, subjective norms, perceived control, psychological well-being, and both athletic performance and academic performance using SDT and TPB. Specifically, it investigates how intrinsic and extrinsic motivation explain attitudes toward collegiate athletics, subjective norms, and perceived behavioral control. Intrinsic motivation

refers to doing an activity for inherent satisfaction (Good et al., 2022). Extrinsic motivation involves controlled and introjected regulations from external interactions for separable outcomes (Ryan & Deci, 2000). Attitudes are the dispositional evaluation of intended behavior. Subjective norms are the normative influence of important others. Perceived behavioral control is the degree of internal and external control over behavior. These attitudinal factors are then linked to psychological well-being, athletic performance, and academic performance in college student-athletes. This study unveils what factors during intercollegiate athletics account for their improved psychological well-being, leading to better athletic and academic performance. The results of this study can stimulate further research on student-athlete welfare and contribute to developing evidence-based intercollegiate athletics programs. Practically, implementing these factors and ideas to strengthen or expand student-athlete psychological well-being programs can be offered.

Literature Review

Self-Determination for Planned Behavior

Motivational and behavioral theories propose models that expound the antecedents and consequences of motivation for physical activity adherence (Keshtidar & Behzadnia, 2017). One compelling theory is SDT, which describes the effects of socio-contextual factors on individual decisions at the behavioral level. SDT posits human motivation is a necessary dimension of social context, leading to expanded interactions and behaviors (Deci & Ryan, 1985). The theory suggests incentivized motivation regulations trigger individuals' values and commitment, leading to participation in the desired activity (Deci & Ryan, 2000).

Two categories of motivation entail intrinsic (integrated and identified motivations for internal value) and extrinsic (activity for instrumental outcomes; Ryan & Deci, 2018). Intrinsic motivation, also known as autonomous motivation or free choice, involves self-reports of interest and enjoyment of rewarding activities (Good et al., 2022). Having control over one's activities (autonomous orientation), feeling competent in performing them (competence), and experiencing a sense of belonging during the performance (relatedness) lead to intrinsic motivation (Deci & Ryan, 1985).

Autonomy is less activated in extrinsic motivation because behaviors are caused by external factors. When externally regulated or rewarded, this type of motivation is controlled by expectations from others (Ryan & Deci, 2000). Extrinsic motivation is reward-based feedback that individuals internalize to trigger mobilization. Motivation with autonomy is on a continuum from low (extrinsic) to high (intrinsic). When motivation is incentivized (i.e., motivation brings physical and mental compensation with control), individuals are willing to participate and maintain the behavior because it is worthwhile (Pellizzoni et al., 2015). Initially, extrinsic behaviors can evolve into autonomous ones if basic psychological needs are met (Ryan & Deci, 2000). In control orientation, behaviors are organized with respect to external or internal

controls. Highly control-oriented people tend to act due to extrinsic rewards (e.g., pay raises, status upgrades, benefiting others).

Motivation undergoes affective and cognitive processing phases before reaching behaviors. Motivation can elicit attitude formation, external mobilization such as subjective norms, and perceived behavioral control, all of which can impact psychological well-being. TPB elaborates on these phases, assuming behavioral intentions or behaviors are influenced by attitude, subjective norms, and perceived behavioral control (Ajzen, 1991; St Quinton, 2022). TPB posits that behavior is predictable when it aligns with one's values (Gu et al., 2022).

The integration of SDT and TPB occurs at the intersection of autonomous motivation, reward-based external motivation, adaptive outcomes, and behavioral persistence (Pasi et al., 2021). Each theory complements the other to strengthen the procedures from motivation to behavior. SDT is limited in detailing the mobilization phase between motivation and behavior (Sweet et al., 2012). TPB can elaborate on the mobilization phase by adding intrapersonal and interpersonal components, including attitudes, important others' influence, and perceived behavioral control (Ajzen, 1991). Through this integration, internal and external human communication processes detail the factors influencing behavior.

Specifically, intrinsic and extrinsic motivation foster supportive interpersonal environments, leading to affirmative attitude formation, subjective norms, personal control, and adaptive consequences (Lonsdale et al., 2009). In turn, while mobilizing the motivation cognitively and affectively, an individual activates internal attitudes, adopts others' evaluations (subjective norms), and builds belief to perform behavior (Ajzen, 1991). One distinction between extrinsic motivation and subjective norms should be noted. Reward-based extrinsic motivation differentiates subjective norms, as the former involves voluntary acceptance of external regulations for personal improvement (instrumental value; Bear et al., 2017). In contrast, the latter involves social pressures regulating performance in social interactions.

Therefore, SDT explains why social actors form beliefs and seek behavioral outcomes. TPB supplements SDT by articulating the process from motivation to action through control (Hagger & Chatzisarantis, 2009). In the integrative typology of SDT and TPB, psychological well-being is a key factor facilitating the transition from motivation to behavior (Hedlund et al., 2022). From this theoretical integration, this study examines the process from motivation through attitudes, subjective norms, perceived behavioral control, psychological well-being, and athletic and academic performance.

Factors Influencing Athletic Performance and Academic Performance

Success in their activities is the foremost interest of student-athletes participating in intercollegiate athletics (Saarinen et al., 2025). High performance in athletic or academic areas can give student-athletes confidence in their future (D'Agostino & Munroe-Chandler, 2025). Understanding the factors that positively influence

athletic and academic performance can offer insights into what facilitates or impedes behavioral outcomes. Drawn from the factors of SDT and TPB, significant relationships among the factors can be elucidated in a student-athlete context.

Related research highlights the influence of motivation on attitudes, subjective norms, and perceived behavioral control in student-athletes. For instance, enthusiasm for a para-sport event not only enhances enjoyment but also strengthens the desire to return (Kim et al., 2023). This motivation extends beyond the individual, influencing social norms through social relation management (Manning, 2011). Regarding the relationship between motivation and perceived control, the drive to participate in leisure activities boosts students' confidence in controlling their actions, leading to their intentions (Polet et al., 2021). Well-being is also activated by motivation. Immersed in the psychological state of flow, athletes and exercisers find their performance and well-being significantly enhanced (Goddard et al., 2023). At the behavioral level, athletes' motivation for human interactions contributed to better athletic performance (Marvin et al., 2022) and superior academic achievements (Ito & Umemoto, 2022). In this view, motivation in SDT underpins TPB's cognitive and affective factors in student-athletes (Pacres & Babiera II, 2025).

In the context of student-athletes within TPB, attitude is crucial in explaining psychological well-being, athletic performance, and academic performance (Chappell et al., 2021; Zanin et al., 2022). For example, students with positive attitudes toward recommended medication tend to achieve better academic performance (Ponnet et al., 2015). Additionally, incorporating academic expectations in sports academies has fostered motivation, positive attitudes toward baseball, and educational achievements (Franz & Cook, 2020). Thus, motivation from SDT and attitude from TPB are integral in accounting for behavioral performance.

Important others, such as family or coaches, and the ability to control behavior also influence student-athletes' well-being (Mascret et al., 2022; Ling et al., 2019). Further, college students' physical activity participation, influenced by subjective norms, helped their high academic achievement (Linder et al., 2018). However, student-athletes tend to perceive false subjective norms, believing their peers do not see athlete friends as academically motivated. As such, athletes likely conform to the perception leading to academic underperformance even though they have positive attitudes toward academic achievement (Levine et al., 2014). Additionally, college student-athletes' academic performance is negatively affected by stereotype threats (e.g., intellectually less motivated; English & Kruger, 2020). When planned behaviors were adequately controlled by individuals (e.g., 'I can do the sport well'), psychological well-being followed (Ling et al., 2019). College sport management majors with high perceived behavioral control showed strong athletic identity and academic performance (Lumpkin et al., 2017). Like perceived behavioral control, students' self-efficacy enhanced athletic performance among competitive springboard and high board divers (Pattinson et al., 2017). Therefore, TPB's subjective norms and behavioral control are well-described in their influence on well-being and behavioral performance in student-athletes.

From the sports psychology perspective, there is a robust connection between psychological well-being and athletic and academic performance (McCoy & Rupp, 2021; Roncaglia, 2017). As an example, fulfilled self-determined needs help develop strong athletic identities, improving psychological well-being and performance (van Rens et al., 2019). In another study, brainwave monitoring and treatments have improved psychological well-being and performance in kickboxing athletes (Rydzik et al., 2023). This research evidence attests to positive connections between well-being and behavior in the context of TPB and SDT.

In summary, motivations to engage in athletics foster positive attitudes, subjective norms, and a sense of perceived control. These attitudinal factors influence student-athletes' well-being and performance. The paths from motivation to behavior indicate SDT and TPB are well-aligned within student-athlete populations, forming a cohesive relational model.

Hypothesized Model

Integrating SDT and TPB in a student-athlete context shows individual components of motivation, attitudes, subjective norms, and perceived behavioral control precede psychological well-being, athletic performance, and academic performance. Internal and external interactions are anticipated to be related to actionable outcomes. The corroborative relationships among them in student-athletes' lives can be constructed as a conceptual model for sequential influences. In a path model, this study examines the factors that explain psychological well-being leading to enhanced athletic and academic performance among college student-athletes. A path model accounts for influencing relationships, allowing the identification of the most significant factors for outcomes (Streiner, 2005). The hypothesized model (Figure 1) and hypotheses guiding the approach are posed below.

H1: Student-athletes' a) intrinsic and b) extrinsic motivation for collegiate athletics will be positively related to a) attitudes, b) subjective norms, c) perceived behavioral control, d) psychological well-being, e) athletic performance assessments, and f) academic performance assessments.

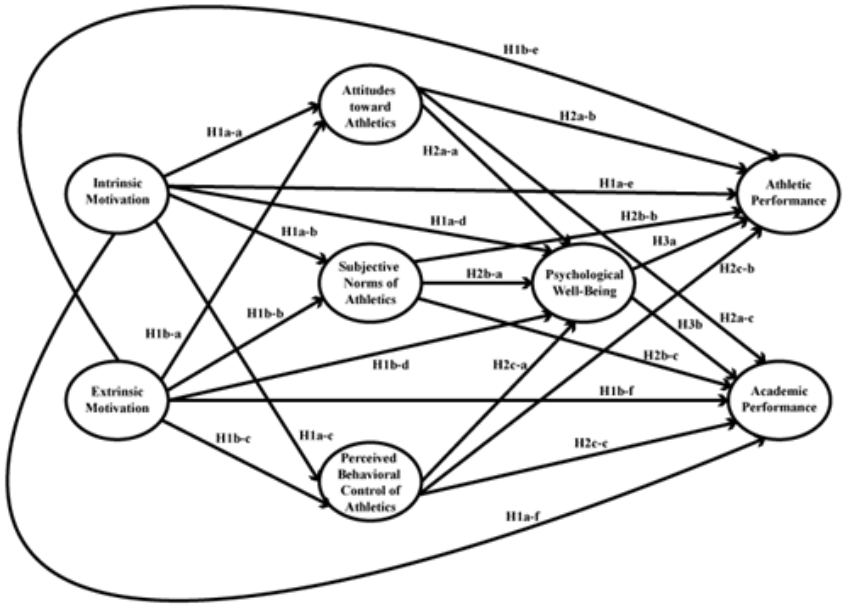
H2: Student-athletes' a) attitudes, b) subjective norms, and c) perceived behavioral control regarding participating in collegiate athletics will be positively related to a) psychological well-being, b) athletic performance assessments, and c) academic performance assessments.

H3: Student-athletes' psychological well-being will be positively related to a) athletic performance assessments, and b) academic performance assessments.

Method

To examine the hypotheses, this study used a mixed methods approach. The questionnaire consisted of closed-ended and open-ended questions. Operationally defined measures of each variable were included as scales to examine hypothesized

Figure 1.
Hypothesized Model of Motivation, Planned Behavior, Psychological Well-being, and Performance



relationships for quantitative analysis. Respondents were asked open-ended questions about motivations, attitudes, subjective norms, perceived behavioral control, psychological well-being, and performance. Their qualitative responses were used to supplement quantitative examinations of the variable relationships using the reflective thematic analysis (Braun & Clarke, 2021).

Data Collection

Data were collected from an online survey by contacting National Collegiate Athletics Association (NCAA) schools. Upon Institutional Review Board approval, the research team contacted the athletic departments of the 32 NCAA Division I conferences from August 20 to December 8, 2023, totaling 363 schools. Athletic directors and coaches were contacted via email to request their encouragement of student-athletes' survey participation. The list of contact information was obtained from the NCAA website. In the email message for student-athletes, each student-athlete participant was asked to complete the survey and provide their email addresses that were used to send a $20 Amazon e-gift card. As a result, 302 responses were collected, and 262 complete responses were used for analysis, a completion rate of 86.75%.

There were 76 (29.0%) male and 161 (61.5%) female student-athletes, with two who preferred not to say (0.8%) and 23 (8.8%) missing responses. The average age was 20 years old (*SD* = 1.56). The largest percentage of participants identified as seniors with 78 (29.8%), followed by freshmen (*n* = 64, 24.4%), juniors (*n* = 55, 21.0%), and sophomores (*n* = 44, 16.8%). Sports participated in include: Track and Field (71, 27.1%), Soccer (34, 13.0%), Cross-Country (24, 9.2%), Baseball (23, 8.8%), Aquatics (22, 8.4%), Softball (16, 6.1%), Basketball (12, 4.6%), Volleyball (11, 4.2%), Golf (19, 3.8%), Gymnastics (9, 3.4%), Tennis (8, 3.1%), Football (7, 2.7%), Field Hockey (5, 1.9%), Rugby (5, 1.9%), and Lacrosse (1, 0.4%). See Table 1 for full demographics.

Measurements

The questionnaire consisted of closed-ended and open-ended questions asking student-athletes about motivation, attitudes toward collegiate athletics, subjective norms, perceived behavioral control, psychological well-being, athletic performance, academic performance, sex, age, school year, and participating sports (See Appendix A for scale items and open-ended questions).

Intrinsic and Extrinsic Motivation

Following Ryan and Deci (2000) and Lilleker and Koc-Michalska (2017), this study measured respondents' motivational feelings toward participating in collegiate athletics (from 1 = strongly disagree to 5 = strongly agree). Intrinsic motivation (three items) indicates personal inner feelings that participation in collegiate athletics would be self-fulfilling (autonomy), competent (competence), and have a positive influence on others (relatedness). Extrinsic motivation (three items) is the belief that others encourage student-athletes' participation in collegiate athletics for instrumental value (approval, recognition, and benefit).

Attitudes toward Collegiate Athletics

A measure of evaluative disposition toward collegiate athletics was garnered from past research (Ajzen, 1991; Suntornsan et al., 2022). Respondents' degree of favorability toward collegiate athletics was collected in five items (from 1 = strongly disagree to 5 = strongly agree).

Subjective Norms

This study assesses student-athletes' subjective norms, operationally defined as the degree to which important others influence participating in collegiate athletics (from 1 = strongly disagree to 5 = strongly agree; five items; Wykes et al., 2022).

Perceived Behavioral Control

The level of willingness to participate in collegiate athletics was measured as perceived behavioral control. The scale was obtained from related past research that studied student-athletes' confidence in athletics (from 1 = strongly disagree to 5 = strongly agree; five items; Palmer et al., 2005).

Table 1. Demographic Distribution and Athletics Information (n = 262)

	Total	Mean (SD)	Frequency	Percentage
Sex	262 (100%)			
Male			76	29%
Female			161	61.5%
Prefer not to say			2	0.8%
No response			23	8.8%
Age	262 (100%)	20 (1.56)	240	91.8%
No response			22	8.2%
School years	262 (100%)			
Freshman			64	24.4%
Sophomore			44	16.8%
Junior			55	21.0%
Senior			78	29.8%
No response			21	8.0%
Athletics	262 (100%)			
Track and field			71	27.1%
Soccer			34	13.0%
Cross-country			24	9.2%
Baseball			23	8.8%
Aquatics			22	8.4%
Softball			16	6.1%
Basketball			12	4.6%
Volleyball			11	4.2%
Golf			10	3.8%
Gymnastics			9	3.4%
Tennis			7	2.7%
Football			7	2.7%
Field hockey			5	1.9%
Rugby			5	1.9%
Lacrosse			1	0.4%
No response			4	1.5%

Psychological Well-being

Following the scale developed by Ryff and Keyes (1995), this study assessed psychological well-being as the degree of a positive mindset in life from personality to life aim, achievements, relationships, responsibility, learning, and value (from 1 = strongly disagree to 5 = strongly agree; 18 items).

Self-Assessments of Athletic Performance

Due to the limited circumstance of collecting student-athletes' athletic performance data, this study measured student-athletes' self-assessments of athletic performance. This study used a shortened version of the athletic performance scale (Pedersen & Manning, 2003). The scale consists of a self-assessment of athletic performance, including the desire to play, desire to succeed, responsibility to play, work ethic, and readiness for competition (from 1 = strongly disagree to 5 = strongly agree; 12 items).

Self-Assessments of Academic Performance

Due to the restrictions of collecting student-athletes' academic performance data, this study collected their self-assessed academic performance. Student-athletes self-evaluated their academic performance in terms of writing, reading, class participation, and competence (Lam & Kolic, 2008). A total of ten items were asked (from 1 = strongly disagree to 5 = strongly agree).

Participating Athletics

This study utilized a list of sports from a previous study (Karpinski & Milliner, 2016) to ask respondents to indicate their athletic program. This measure was used to analyze the distribution of athletic participation among the participants.

Open-Ended Questions for Reflective Thematic Analysis

This study also collected written responses from student-athlete participants for thematic content analysis. Drawn from the theoretical discussion, this study collected student-athletes' written responses regarding their evaluations of motivation, attitudes, subjective norms, perceived behavioral control, psychological well-being, athletic performance, and academic performance. These questions aimed at participants' candid narrative responses, which were not collected from the quantitative measurements. In the survey, each respondent was asked to provide written responses to the questions about motivation, attitude, subjective norms, perceived behavioral control, psychological well-being, self-assessments of athletic performance, and self-assessments of academic performance (see Appendix A for questions). These open-ended questions were used for a reflective thematic analysis.

Analysis Plan

For quantitative data analysis to examine hypotheses, this study used R packages (e.g., lavaan) for path analysis. Cronbach's alphas for scale reliabilities were

obtained. All items of each scale were summed and averaged to create composite variables. Each variable was entered in a path analysis to examine the hypothesized relationships.

For qualitative data analysis from written responses, this study used a deductive approach to the reflective thematic analysis based on the open-ended questions drawn from theories (Braun & Clarke, 2021). The two researchers cross-checked the data and analysis to ensure reliability. The thematic analysis underwent multiple phases (Šramová & Pavelka, 2023). Following the phases built by Braun and Clarke (2021), in Phase 1 ("data familiarization and writing familiarization"; p. 331), the two researchers perused the written responses for data and wrote familiarization notes. In Phase 2 ("systematic data coding"), the researchers chose the reflective data coding method (Braun & Clarke, 2021, p. 331). This coding method suggests the process should be open and organic, and themes are the final outcomes of iterative theme development. The method is a situated interpretative reflexive process. From this, keywords were sorted into small chunks of meaning that addressed each variable. In Phase 3 ("generating initial themes"; Braun & Clarke, 2021, pp. 331), themes were drawn from the word chunks of each question. In Phase 4 ("reviewing themes"; Braun & Clarke, 2021, pp. 331), the researchers reviewed and developed the preliminary themes from Phase 3. The researchers agreed with the developed themes. Those themes were defined and named based on SDT and TPB in Phase 5 ("refining, defining, and naming themes"; Braun & Clarke, 2021, p. 331). Finally, the themes were represented as a summary in Phase 6 ("writing the report"; Braun & Clarke, 2021, p. 331).

Respondents' answers were analyzed through word clouds in R. Second, the two researchers reviewed the responses and derived themes for the responses of each variable question (e.g., motivations, attitude, subjective norms, perceived behavioral control, well-being, and performance). The themes were elaborated on exemplary responses to verify the representation of each variable, identifying the themes that capture the main points in the responses using the reflective thematic analysis (Braun & Clarke, 2021).

Results

Hypotheses Examination

A Pearson bivariate correlation analysis among the measures was conducted to check the potential relationships of the exogenous variables (motivations) with endogenous variables (attitude, subjective norms, perceived behavioral control, psychological well-being, athletic performance, and academic performance; Table 2). Intrinsic motivation (IM), extrinsic motivation (EM), attitude (AT), subjective norms (SN), perceived behavioral control (PBC), psychological well-being (WB), athletic performance (ATP), and academic performance (ACP) were highly associated with each other and significant, indicating the possibility of explaining the proposed model.

For the model examination, this study used R packages for the measures and covariates (sex, age, and school year). The model estimated the variances of

exogenous variables (intrinsic and extrinsic motivation). Endogenous variables' residual variances and covariances were estimated. At the first attempt without modification indices, the model fit indices yielded acceptable levels with one index (RMSEA) at a marginal level (Figure 2).

Table 2. Correlations between Independent and Dependent Variables, Means, Standard Deviations, and Reliabilities

	1	2	3	4	5	6	7	8
1. Intrinsic Motivation	1							
2. Extrinsic Motivation	0.79 ***	1						
3. Attitude toward Athletics	0.91 ***	0.76 ***	1					
4. Subjective Norm of Athletics	0.72 ***	0.66 ***	0.75 ***	1				
5. Perceived Behavioral Control of Athletics	0.78 ***	0.62 ***	0.82 ***	0.77 ***	1			
6. Psychological well-being	0.64 ***	0.64 ***	0.65 ***	0.62 ***	0.73 ***	1		
7. Athletic Performance	0.60 ***	0.54 ***	0.60 ***	0.53 ***	0.67 ***	0.74 ***	1	
8. Academic Performance	0.29 ***	0.31 ***	0.28 ***	0.27 ***	0.27 ***	0.50 ***	0.51 ***	1
M	4.44	4.02	4.47	4.29	4.59	4.09	4.62	4.05
SD	0.94	0.97	0.92	0.92	0.84	0.69	0.67	0.75
Cronbach's Alpha	0.90	0.86	0.95	0.92	0.95	0.94	0.97	0.91

*$p < .05$. **$p < .01$. ***$p < .001$.

H1 examined the relationships between motivation and subsequent variables. IM positively explained AT (β = 0.79, $p < .001$), SN (β = 0.52, $p < .001$), PBC (β = 0.76, $p < .001$), and ACP (β = 0.26, $p < .05$). IM was not related to WB (β = -0.03, $p > .05$). EM was significantly associated with AT (β = 0.13, $p < .01$), SN (β = 0.31, $p < .001$), WB (β = 0.37, $p < .001$), but not with PBC (β = 0.02, $p > .05$), ATP (β = 0.15, $p > .05$), and ACP (β = 0.07, $p > .05$). Therefore, H1 (a) IM – (a) AT, (b) SN, and (c) PBC were supported. H1 (a) IM – (d) WB and (e) ATP were not supported. H1(a) IM – (f) ACP was supported. H1 (b) EM – (a) AT and (b) SN were supported. H1 (b) EM – (c) PBC was not supported. H1 (b) EM – (d) WB was supported. H1 (b) EM – (e) ATP was not supported. H1 (b) EM – (f) ACP received no support.

H2 examined positive relationships between AT, SN, PBC, WB, ATP, and ACP. The results found AT and SN were unrelated to any dependent variables. PBC positively explained WB ($\beta = 0.52$, $p < .001$) and was negatively associated with ACP ($\beta = -0.32$, $p < .001$). H2 (a) AT – (a) WB, (b) ATP, and (c) ACP received no support. H1 (b) SN - (a) WB, (b) ATP, and (c) ACP received no support. H1 (c) PBC – (a) WB received support. H1 (c) PBC – (b) ATP was not supported. H1 (c) PBC – (e) ACP was not supported. **H3** suggested student-athletes' WB would positively explain ATP and ACP. As the results showed, WB was significantly related to ATP ($\beta = 0.49$, $p < .001$) and ACP ($\beta = 0.52$, $p < .001$). H3 WB – (a) ATP was supported. H3 WB – (b) ACP was supported.

Student-athletes who have intrinsic motivation build perceived self-control of athletics. They have high psychological well-being, leading to successful athletic and academic performance evaluations. When student-athletes feel good about athletics and are able to influence others, their confidence level in athletics, determining minds, and self-control are heightened. Such self-motivated feelings and experiences produce positive psychological well-being and successful athletic and academic performance. Extrinsic motivation can drive psychological well-being, producing satisfactory athletic and academic performance. Student-athletes' altruistic feelings that they can contribute to the benefit of others raised self-confidence in collegiate athletics, which contributed to successful college life.

Reflective Thematic Analysis

Motivations: Self-Growth and Supportive Inspiration

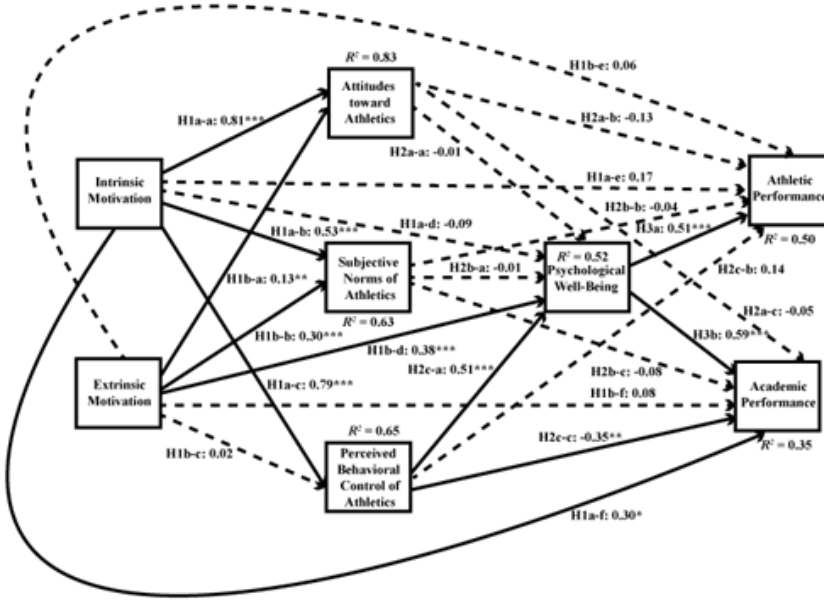
As the second phase of analysis, student-athletes' written responses were thematized. Following the six analysis phases (Braun & Clarke, 2021), self-growth was the first prominent theme under intrinsic motivation. Student-athletes participate in athletics for self-development, motivation, importance, love for sports, and self-fulfillment. A respondent mentioned, "College athletics is about trying to push myself to be the best that I can be and growing up."

In extrinsic motivation, the supportive inspiration theme represented the concept. With belongingness, role models, and family pride, student-athletes valued voluntary encouragement from parents and family. For example, one response is, "What motivates me most is making my family proud. I grew up in an environment where my dad played professionally, and now my brother plays too."

Attitude, Subjective Norms, and Perceived Behavioral Control: Growing Experience, Pressure, Burdensome Responsibility, and Success Mindset

As to attitudes, both upsides and downsides were mentioned. As the theme was positive, they had positive attitudes toward the growing experience. They learned lessons, growth, teammates, competitiveness, rewards, and social standing. A student expressed, "Nothing but positive. I am who I am today and in grad school because of collegiate athletics. It gave me a new home and family." On the negative side theme, pressure was prominent. They felt stressed, overwhelmed, anxious, lost, and pressured: "College athletics can be difficult because it takes up a lot of time, so you have to work twice as hard to build a competitive resume against someone who does

Figure 2.
Path Model Test Results.



Note. Model Indices: Chi^2 = 15.39. Degrees of Freedom = 5. p = 0.009. Comparative Fit Index (CFI) = 0.99. Tucker-Lewis Index (TLI) = 0.92. Root Mean Square Error of Approximation (RMSEA) = 0.09 (marginal). Standardized Root Mean Square Residual (SRMR) = 0.04.

not play sports."

The theme for subjective norms was summarized as burdensome responsibility. This is different from extrinsic motivation because they viewed subjective norms as duties, weights on their shoulders, and involuntariness. When the expectations and pressures from parents, coaches, teammates, and friends come as a controlled influence rather than self-motivation, they do not play a positive role in psychological well-being or performance. They were conscious of how others viewed them: "I want to say yes because I feel like I would be a disappointment if I were to quit."

Perceived behavioral control showed the most consistent responses. Student-athletes agreed the 'I can do' spirit was interpreted as a success mindset. They set the mind control for recovery from setbacks. Their willingness was the priority: "Yes. No coaches are going to motivate you if you don't want to do it. It is very athlete-driven to be good."

Well-Being: Disciplined Fulfillment

Psychological well-being reminded student-athletes of the disciplined fulfillment theme. They had goalsetting, fulfillment, purpose, resilience, compassion for

themselves, experience, work ethic, confidence, a sense of community, and rewards in their evaluation of psychological well-being. A respondent agreed that athletics affects psychological well-being by mentioning mindfulness, "I do believe it affects my well-being because it has become something I can use to bring me peace when I am stressed or worried in other areas of life."

Athletic and Academic Performance: Self-Identity and Intellectual Accomplishments

Student-athletes responded that the prevailing theme for athletic performance is self-identity. They had self-worth, survival, self-testament, a huge part of college life, and a connection with academic performance through desired athletic outcomes. A student-athlete emphasized identity,

> My athletic performance is extremely important to me as a student-athlete. Being a D1 athlete is a big part of my identity that I am proud of, and I want to use my talents and opportunities the best I can.

Lastly, academic performance was themed as intellectual accomplishments. They had mental satisfaction, the symbol of college life success, the whole reason for college, knowledge, skills, scholarships to stay in the program, future careers, and mental stability. In response, a student-athlete recognized the importance of academic performance, "On a larger scale, I recognize that the most important part of my time in college is getting my degree and other important skills and connections to set myself up for a successful future." A visual presentation of the main keywords for each variable in word clouds is displayed in Figure 3.

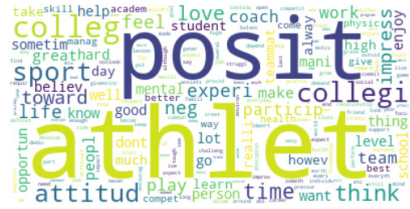
When comparing model test results and written responses, student-athletes' self-growth, achievement, love for sports, and enjoyment motivations led to better academic performance. Families' inspirational encouragement and role models developed student-athletes' self-determination, joy in life, well-roundedness, confidence, and keeping hungry. Student-athletes' 'I can do' spirit also explained psychological well-being, such as overcoming hard times and working through the most challenging times. With psychological well-being met, they can do better in athletic performance because it defines them, takes up a large portion of campus life, and permeates all aspects of their lives. Psychological well-being also leads to the views that academic performance 1) is what they want to be as a person, not just as an athlete; 2) lasts forever, but athletics only lasts a few years; 3) shapes their futures; and 4) affects athletic performance.

Discussion

This study aimed to discover factors influencing student-athletes' better athletic performance and academic performance. An integrated model examination and reflective thematic analysis of written responses affirmed the pivotal role of psychological well-being. Both intrinsic and extrinsic motivations of SDT influenced

Figure 3.
Keywords from Word Cloud for Each Variable

Motivations



Attitude

Subjective Norms

Perceived Behavioral Control

Psychological well-being

Athletic Performance

Academic Performance

their TPB factors, indicating student-athletes' motivational states do not provide refined explanations for performance without attitude, subjective norm, perceived control, and psychological well-being. The reflective thematic analysis refined and detailed the significant and nonsignificant relationships found in the quantitative analysis.

Internally, self-growth and life goal achievements triggered high academic performance because the results are rewarding and can influence others in collegiate athletics (H1). Their love for athletics motivated them to be an example for others and succeed academically (Zheng, 2022). Intrinsic motivation also drove positive attitudes, subjective norms, and perceived control (H1). In related research on athletic rehabilitation, student-athletes' perceptions of mastery and performance climate

were positively related to intrinsic motivation efforts, whereas tension pressure was negatively related (Brinkman-Majewski & Weiss, 2018). As such, student-athletes tend to prefer an encouraging and positive environment triggered by self-rewarding intrinsic motivation. A sense of purpose in athletic life can be redefined by motivation because it can guide them to thrive in sports and life (Houltberg & Scholefield, 2020). Another notable finding is the relationship between extrinsic motivation, subjective norms, and perceived control. Both rewarding motivations from outer sources (extrinsic) and relatively controlled influences from others (subjective norms) are positively connected. However, they are not translated into subsequent psychological development, possibly because controlled influences can adversely affect student-athletes' needs (Viksi & Tilga, 2022). This interpretation supports the findings of this study found in H2. Extrinsic motivation is not linked with self-confidence in athletics, but intrinsic motivation is. Student-athletes' self-fulfillment motivation can trigger a positive mindset.

Unlike the original expectations, attitude and subjective norms were not associated with psychological well-being (H2). Only perceived control was linked to psychological well-being. The results suggest student-athlete respondents view attitude and subjective norms from multiple angles. For instance, their qualitative responses presented positive and negative attitudes toward collegiate athletics. Although collegiate athletics provides growth, lessons, competitiveness, rewards, and social standing, it also generates anxiety, depression, tension, anger, fatigue, isolation, and pressure (Mathews et al., 2021). Student-athletes can develop favorable attitudes toward sports as well as help-seeking attitudes caused by mental and physical challenges (O'Keeffe, 2023). Therefore, not all attitudinal responses support improved psychological well-being because attitudes were interpreted as having upsides and downsides. Additionally, subjective norms were viewed as social influence and social pressure, which did not contribute to fostering psychological well-being, athletic performance, and academic performance. The results imply that autonomous support and influence are preferred in the process of student-athletes' psychological well-being development (Pynnönen et al., 2023).

Hence, this study's results show support for increasing positive attitudes (rewarding and growth) and mitigating negative attitudes (mental pressure) is necessary for student-athletes. A reason for the disconnection between subjective norms and psychological well-being can be explained as others' misperceptions (Levine et al., 2014) about student-athletes and duties rather than voluntary encouragement. External pressure for performance hindered student-athletes' psychological well-being, while self-compassion promoted it (Adam et al., 2021).

A notable association with intrinsic motivation is found in perceived behavioral control. Student-athletes' resilience, confidence, and 'never give up' approach encourage them to go further than their original goals and build positive mindsets for desired athletics participation (Nazlek, 2018). As seen in the results, self-growth and a confident mindset indirectly influenced athletic performance through psychological well-being. However, the opposite was true for the direct relationship between perceived control and academic performance. Therefore, a robust going-

forward mindset helped student-athletes form personal life satisfaction with purpose, fulfillment, positive thinking, and goal setting, thereby enabling them to perform better athletically. In turn, an independent athletic identity with confidence develops psychological well-being (van Rens et al., 2019). In the case of academic performance, a self-development need and a positive influence on others were better motivators, indicating they perform better in academic learning when they believe their athletic motivation is for social good.

Extrinsically, inspiration from role models rather than pressure from important others for better performance was important in developing psychological well-being, leading to successful athletic and academic performance. Extrinsic motivation is a motivational state formed by inspiration for rewarding outcomes. Subjective norms are verbal or behavioral encouragements to participate in collegiate athletics. Therefore, extrinsic motivation involves more voluntary actions than subjective norms. Student-athlete respondents in the current study believe voluntary influences from role models are more powerful than mere encouragement for psychological well-being, athletic performance, and academic performance. The influence of role models also means emotional support networks can explain satisfied psychological well-being and performance (Szarabajko et al., 2023).

As a bridging agent, psychological well-being was critical in enhancing student-athlete respondents' athletic and academic performance (H3). Having independence, psychological control, and confidence, self-determination can play a significant role in athletic performance. In turn, mindfulness training can be an effective program for student-athletes to be self-motivated, manage their minds and spirits, and lead to improved athletic outcomes (Mojtahe et al., 2023). Supportive networks enhance an athlete's emotional well-being, ultimately leading to better athletic performance and overall success (Szarabajko et al., 2023). Previous research supports the current study's findings on the relationship between psychological well-being and academic performance, stating that psychological well-being plays a constructive role in facilitating academic achievement in students' physical activities (Visier et al., 2022).

To improve the adverse attitude toward athletics, programs that alleviate student-athletes' stress, anxiety, and pressure can be a productive action (Harris & Maher, 2023). Psychological health management is recommended through counseling, listening, coping skills, and voluntary participation in inclusive conversations. A high level of student-athletes' life satisfaction with sociability and extraversion facilitated their academic performance (Echemendia et al., 2019). Not only psychological well-being improvement programs but also times given to student-athletes to be social, self-develop, and communicate with role models formally and informally can enhance academic achievement.

The significance of this study lies in the role of psychological well-being. Psychological well-being bridged between attitudinal factors and student-athletes' performance in college. A supportive and positive environment surrounding student-athletes promoted self-motivation and success in their athletic and academic life. The results suggest both cognitive and emotional well-being, including humane experiences, encourage student-athletes to achieve their goals in college life.

Theoretical and Practical Implications

Integrating SDT and TPB enabled this study to examine motivation and attitudinal variables in a relational model. This integration gave a more comprehensive understanding of the factors influencing student-athletes' well-being and performance behaviors. SDT does not build its foundation without social actors (Lonsdale et al., 2009). The presence and influence of social actors are fundamental to the theory, highlighting the social context's contribution to motivation and behavior. This study included student-athletes' social actors (TPB factors) in their athletic lives to elaborate on the process from motivation to behavior.

Particularly, psychological well-being critically linked motivation with behavior in this student-athlete context. This result suggests well-being is pivotal in translating motivation into actual behavior. Motivation is followed by psychological and behavioral control because actions are anticipated as a result of self- or other-related experiences (Sánchez & García, 2021). In other words, the experiences related to oneself or others drive the anticipated actions.

Intrinsic and extrinsic motivations were two essential factors that prompted perceived behavioral control and psychological well-being in the current study. The combined model improved the relationships' explanatory power, which was impossible without them. The integration of these theories provided a more robust framework for understanding the dynamics between motivation, psychological well-being, and behavior.

Colleges' athletic departments and other supporting bodies can elaborate on student programs around self-growth, positive influence on others, inspiration, role models, self-confidence, mindfulness, self-determination, self-compassion, influence on others, long-term plans, and sociality. The results suggest student-athletes' success in college is closely tied to their psychological well-being. Focusing on psychological improvement through varying practices and programs can boost beneficial actions as well as motivations. Autonomous motivation and encouragement with exemplary inspiration, rather than controlled motivation and influence, can effectively enhance student-athletes' performance and success. Programs such as family days with respected parents, resilience training, and compassion initiatives can significantly enhance the psychological well-being of student-athletes (Kuchar et al., 2023).

Student-athletes need opportunities to meet with successful alums or professionals in a mentoring program for guidance, inspiration, and practical advice. Further, peer support groups can offer student-athletes the opportunity to share experiences and challenges in college life. Workshops can cover stress management and mindfulness to help student-athletes maintain their psychological well-being. If students are recognized for their athletic achievements and academic growth, such experience can motivate student-athletes to excel in college. Emotionally, community engagement opportunities, such as volunteering, are rewarding experiences for student-athletes.

The findings of this study suggest student-athletes value academic performance as well as athletic success. Therefore, athletic departments can provide student-

athletes with related resources and support for their future career planning. These efforts can help student-athletes successfully transition into their post-college lives.

Study Limitations

Some study limitations should be noted. While the decision not to ask NCAA Division I student-athletes about their specific affiliations was made to protect their privacy, knowing their athletic conferences would have provided an opportunity for comparison. Future research could include that information to elaborate on the level of psychological well-being, athletic performance, and academic performance by conference, sex, team sports, and individual sports. Well-being is a multidimensional concept, including clinical, physical, and social aspects. This study focused on psychological well-being only. Future research can measure expanded well-being, including clinical mental and physical and social well-being.

A larger sample size than the current (n = 262) may increase the external validity of study results. Daily communication with self and important others and self-evaluations were regarded as the main factors accounting for psychological well-being and performance in this study. Whether habitual or deliberate, media dependency is woven into the fabric of the public's life today. Student-athletes' use of media and personal networks through the media that influence their attitude, confidence, psychological well-being, and performance can be a topic of future studies.

Conclusion

In this study's key findings, feeling student-athletes are valued, growing, and being important to others in athletics leads to better psychological well-being followed by improved athletic performance and academic performance. Self-motivation and personal inspiration, rather than external pressures, are important indicators of better athletic and academic performance. Student-athletes can perform better in athletics and academics when these are fulfilled. When student-athletes are resilient, self-disciplined, fulfilled, purposive, compassionate, and confident, their balanced college life with the excellence of athletic and academic performance can be better ensured.

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Appendix A

Intrinsic Motivation (from 1 = strongly disagree to 5 = strongly agree)

1. I would personally feel good taking part in collegiate athletics.
2. I feel that my participation in collegiate athletics would be a sort of thing that my friends and family would respect me for.
3. I feel I could influence others in collegiate athletics.

Extrinsic Motivation (from 1 = strongly disagree to 5 = strongly agree)

1. Others would benefit from people like me taking part in collegiate athletics.
2. A number of my friends would also take part in collegiate athletics.
3. I would feel inspired by my friends to take part in collegiate athletics.

Attitudes toward collegiate athletics (from 1 = strongly disagree to 5 = strongly agree)

1. My active participation in collegiate athletics is a good thing.
2. My active participation in collegiate athletics sets a good example for other people.
3. My active participation in collegiate athletics helps me feel disciplined and proud of myself.
4. Active participation in collegiate athletics is valuable.
5. My active participation in collegiate athletics can make other people proud of me and earn their praise.

Subjective Norms (from 1 = strongly disagree to 5 = strongly agree)

1. My close friends think that I should participate in collegiate athletics.
2. My parents think that I should participate in collegiate athletics.
3. My classmates think that I should participate in collegiate athletics.
4. Most people who are important to me would agree that I actively participate in collegiate athletics.
5. Most people who are important to me encourage me to actively participate in collegiate athletics.

Perceived Behavioral Control (from 1 = strongly disagree to 5 = strongly agree)

1. I can actively participate in collegiate athletics.
2. I am confident that I can actively participate in collegiate athletics.
3. My determination to perform in collegiate athletics drives my participation in collegiate athletics.
4. It is entirely up to me whether I participate in collegiate athletics or not.
5. Even if I have obstacles, I still participate in collegiate athletics.

Psychological Well-being (from 1 = strongly disagree to 5 = strongly agree)

1. I like most parts of my personality.
2. When I look at the story of my life, I am pleased with how things have turned out so far.
3. Some people wander aimlessly through life, but I am not one of them.
4. I can handle the demands of everyday life.
5. In many ways I feel encouraged about my achievements in life.
6. Maintaining close relationships has been easy for me.
7. I live life gladly and really think about the future.
8. In general, I feel I am in charge of the situation in which I live.
9. I am good at managing the responsibilities of daily life.
10. I sometimes feel as if I've done all there is to do in life.
11. For me, life has been a continuous process of learning, changing, and growth.
12. I think it is important to have new experiences that challenge how I think about myself and the world.
13. People would describe me as a giving person, willing to share my time with others.
14. I try to make big improvements or changes in my life.
15. I am not influenced by people with strong opinions.
16. I have experienced many warm and trusting relationships with others.
17. I have confidence in my own opinions, even if they are different from the way most other people think.
18. I judge myself by what I think is important, not by the values of what others think is important.

Self-Assessments of Athletic Performance (from 1 = strongly disagree to 5 = strongly agree)

In my sport,

1. I utilize time away from practice and workout well.
2. I have a desire to play.
3. I utilize workout time well.
4. I have the attitude or desire to succeed.
5. I maintain a high level of physical conditioning.
6. I am motivated to succeed.
7. I take a personal responsibility to be ready to play.
8. I have a well-developed work ethic.
9. I have a desire to win.
10. I possess discipline.
11. I strive for perfection in the sport.
12. I prepare for competition.

Self-Assessments of Academic Performance (from 1 = strongly disagree to 5 = strongly agree)

In my schoolwork,

1. I write well.
2. I know how to study effectively.
3. I manage my time efficiently.
4. I can do mathematical problem-solving adequately.
5. I read books, journals, or articles for courses effectively.
6. I take notes in lectures skillfully.
7. I prepare for and write exams well.
8. I am good at doing research.
9. I make class presentations very clearly.
10. I participate in class discussions actively.

Open-ended questions

1. What motivates you to participate in collegiate athletics? Please write a short story about your motivated feelings for athletics.
2. What are your attitudes toward collegiate athletics? Do you have positive or negative impressions of your participating athletics? Can you explain why you have such an attitude?
3. Do important others around you influence your participation in collegiate athletics? If yes, how? If not, why?
4. Does your "I can do" spirit play an important role in participating in collegiate athletics, and how and why?
5. How do you believe collegiate athletics influences your life satisfaction and quality (well-being)? Please provide your opinion and experience.
6. How important is your athletic performance to you as a student-athlete? Does athletic performance take up a large portion of your college life? Please explain your opinion and evaluation.
7. How important is your academic performance to you as a student-athlete? Does academic performance take up a large portion of your college life? Please explain your opinion and evaluation.