Proceedings of ICFTBA 2025 Symposium: Financial Framework's Role in Economics and Management of Human-Centered Development
DOI: 10.54254/2754-1169/2025.GL32442

The Double-Edged Sword of NIL Deals: Examining the Positive and Negative Psychological Impacts of Financial Support from Sports Agencies on Collegiate Student-Athletes' Well-Being

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Abstract. The Name, Image, and Likeness (NIL) deals introduced since 2021 have transformed college sports, providing financial empowerment for student-athletes and introducing psychological stresses. This paper investigates the two-sided impact of sports agency financial assistance on athletes' well-being with good points such as increased motivation and confidence and bad points such as increased anxiety, depression, academic decline, and fear of loss. In a quantitative approach with simulated data, we conducted correlation studies and regressions and saw high positive correlations with support levels and distress measures but modest gains in self-esteem. Results bring to fore NIL's role in exacerbating mental health inequities, urging unification of support systems in institutions and agencies to enhance resilience.

Keywords: student-athletes, financial support, mental health, psychological impacts

1. Introduction

Student-athletes in the contemporary sports world are exposed to a wide range of challenges in their professional journey. They are supposed to excel in the classroom and pursue athletic ability, something that typically forces them to enhance their mental ill-wellness. Dr. Claudia Reardon, professor of psychiatry at the University of Wisconsin, identified dual-role conflict as the primary predictor of psychological distress gaining increasing public attention [1]. Underpinned by this, sports economics research determines the economic barriers: in the view of Dr. Mark Nagel, who teaches sports economics at the University of South Carolina, increasing costs of youth sports pose genuine barriers [2]. For instance, Aspen Institute's Project Play reports that families now spend an average of $1,016 per year on a child's primary sport—an increase of as much as 46% on 2019—although elite-level participation often exceeds this figure, leading to a sharp fall in participation from low-income families [3]. These economic pressures frequently manifest as negative emotions, such as anxiety, depression, and frustration, among student-athletes. Additionally, research from Youth Sports in America highlights that families spend an average of $2,000 to $5,000 annually,

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DOI: 10.54254/2754-1169/2025.GL32442

with elite-level athletes requiring up to $15,000, contributing to a 40% decline in participation among low-income households [4].

To address these growing concerns, the rise of sports agencies—particularly after the NCAA's adoption of Name, Image, and Likeness (NIL) rights in 2021—has significantly reshaped the athletic experience [5]. These agencies now offer financial support, sponsorships, personal branding tools, and professional guidance to both high school and college athletes. While these developments have created new opportunities and sources of empowerment, they have also introduced fresh psychological pressures. Our study is mainly based on the psychological impact of giving student athletes financial support, and we will focus on the change in student athletes' emotions behaviors after receiving economic support from sport agencies, and its double-edged effect. Our study aims to address the following key questions:

1) What are the perceived positive psychological impacts of financial support from sports agencies on student athletes?

2) What are the perceived negative psychological impacts of financial support from sports agencies on student athletes?

3) What are the implications of these psychological changes for the overall well-being and long-term development of student athletes?

By adopting a quantitative approach, incorporating regression analyses and diverse visualizations —including data charts depicting trends in psychological stress, timelines of intervention programs, gender-based mental health variations, and distributions of stress sources—this report illustrates evolving patterns in athletes' well-being. Our findings underscore the importance of developing comprehensive psychological support systems for student-athletes, offering fresh insights for the sports agency sector to better foster athletes' holistic development.

A comprehensive review of present research on financial support in collegiate athletics and its psychological effects is given in Section 2. The methodology used in this study, including data creation, variables, and analytical techniques, is described in Section 3. The key variables and descriptive summary are summarized and defined as Section 4. Section 5 presents the correlation matrix. Section 6 demonstrates single regression analysis results. The study finally concluded in Section 7 with a summary of the main findings and suggestions for additional research.

2. Reviews on financial support in collegiate athletics

The following table illustrates the mental health problems among student-athletes during COVID-19, source from NCAA Research [6].

Table 1. Percent of participants who endorsed 'constantly' or 'most every day'

Mental Health Concerns	Men's Sports (Spring 2020)	Men's Sports (Fall 2020)	Women's Sports (Spring 2020)	Women's Sports (Fall 2020)
Felt overwhelmed by all you had to do	31%	27%	50%	51%
Experienced sleep difficulties	31%	18%	42%	28%
Felt mentally exhausted	26%	21%	39%	39%
Felt very lonely	22%	12%	33%	21%
Felt a sense of loss	21%	8%	31%	13%
Felt sad	17%	11%	31%	22%
Felt overwhelming anxiety	14%	11%	27%	29%

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Table 1. (continued)

Felt overwhelming anger	11%	6%	11%	8%
Felt things were hopeless	11%	10%	16%	16%
Felt so depressed it was difficult to function	7%	5%	9%	9%

Table 1 illustrates gender- and season-specific variations in self-reported mental health symptoms endorsed "constantly" or "most every day." Women's sports participants, particularly in 2020 Spring, exhibited higher prevalence rates across most concerns compared to men. For instance, 50% of women in 2020 Spring felt overwhelmed, versus 31% of men; sleep difficulties affected 42% of spring women, exceeding men's 31%. Mental exhaustion and loneliness were also more pronounced among women (39% and 33% in 2020 spring, respectively) than men (26% and 22%). Depressive symptoms, including functional impairment, were notably elevated in women's 2020 spring cohort (9%), highlighting potential gender disparities amplified by pandemic disruptions.

Table 2. Values represent percentages reporting significant concerns

Stress Factor	Black	Latinx	Other	White
Academic worries	42%	45%	47%	43%
Financial worries	35%	39%	30%	21%
COVID-19 health concerns	33%	38%	35%	30%
Personal experiences of racism/racial trauma	31%	10%	14%	3%
Lack of access to your sport	30%	39%	32%	34%
Political disagreements with family/friends	15%	14%	18%	12%
Natural disasters impacting community	9%	12%	8%	4%

Table 2 delineates racial differences in significant stress factors. Black and Latinx athletes reported higher academic (42% and 45%) and financial worries (35% and 39%) than White athletes (43% and 21%). COVID-19 health concerns were comparable across groups, but personal experiences of racism/racial trauma were markedly higher among Black athletes (31%) versus White (3%). Political disagreements and natural disasters showed moderate variations, underscoring intersectional vulnerabilities.

These findings reveal exacerbated mental health burdens among female and minority student-athletes, necessitating targeted interventions in collegiate sports.

The above data from NCAA research is the preparation for our further analysis which is the comparison with the mental health situation after receiving the financial support from sport agencies.

3. Methodology

3.1. Research design

This study employs a quantitative approach to discover the relationships between financial support from sports agencies and psychological shifts among student-athletes. Recognizing the practical challenges in obtaining real-world financial and psychological data from a large cohort—such as privacy concerns and logistical hurdles—we opted for a simulated dataset. This allows us to model hypothetical scenarios while demonstrating robust statistical methods aligned with our research

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questions. The simulated data draws from patterns observed in existing literature on external incentives and athlete well-being, aiming to mirror realistic distributions and interdependencies.

3.2. Data analysis and collection method

Data were initially sourced from public resources NCAA.com and compiled in Excel spreadsheets, then generated synthetically using R programming and Excel spreadsheet to ensure comprehensive coverage of variables, including demographics, financial aid structures, and psychological responses to external pressures.

Analyses include: (1) descriptive statistics to summarize the dataset; (2) correlation analyses among key variables; (3) simple linear regressions examining financial support's impact on anxiety and depression levels separately; and (4) statistical significance testing via p-values and F-tests to validate findings.

4. Variables definition and descriptive summary

Our dataset comprises data on 300 student-athletes. It focuses on the intersection of athletic, academic, financial, and psychological aspects of college-level student-athletes. Table 1 present that the data includes demographic information (age, gender), sport specifics (type of sport, training hours), academic achievement (performance metric, likely GPA), financial support details (amount, type, duration, and agency reputation), and various psychological well-being indicators (anxiety, depression, stress, self-confidence, motivation, and life satisfaction scores, all appearing to be on approximate 1-10 scales). The details are as follows:

Table 3. Variable definition

Variable	Description
Age	Age of the student-athlete (ranging from 18 to 25).
Gender	Gender of the student-athlete (Male or Female).
Sport Type	Type of sport practiced by the student-athlete (Basketball, Track, Soccer, Swimming, Football, Tennis).
Academic Performance	Academic performance metric, likely GPA on a 4.0 scale (ranging from 1.84 to 4.0).
Training Hours	Number of hours spent training, likely per week (ranging from 13 to 40).
Financial Support Amount	Amount of financial support received in dollars (ranging from 5 to 73225).
Support Type	Type of financial support provided (Scholarship, NIL, Endorsement, Mixed).
Support Duration	Duration of the financial support in years (ranging from 0.5 to 5).
Agency Reputation	Reputation score of the supporting agency (ranging from 3.3 to 10, likely on a 1-10 scale).
Anxiety Level	Anxiety level score (ranging from 1.5 to 10, likely on a 1-10 scale).
Depression Score	Depression score (ranging from 1 to 9.5, likely on a 1-10 scale).
Stress Level	Stress level score (ranging from 1.1 to 10, likely on a 1-10 scale).
Self Confidence	Self-confidence score (ranging from 5.8 to 10, likely on a 1-10 scale).
Motivation Score	Motivation score (ranging from 4.2 to 10, likely on a 1-10 scale).
Life Satisfaction	Life satisfaction score (ranging from 4.8 to 9.8, likely on a 1-10 scale).

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All persistent variables have their center of gravity and dispersion summarized using descriptive statistics. The dataset of 300 student athletes serves as a basis for investigating the connections between financial assistance and psychological effects. Table 4 lists the primary descriptive statistics for the variables:

Table 4. Descriptive summary

	Mean	Median	Standard Deviation	Kurtosis	Skewness	Minimum	Maximum
Age	20.2	20	1.74	-0.34	0.53	18	25
Academic Performance	3.2	3.225	0.46	-0.04	-0.47	1.84	4
Training Hours	25.2	25.5	5.53	-0.27	0.06	13	40
Financial Support Amount	13834.8	10026.5	13493.7	3.35	1.70	5	73225
Support Duration	2.6	2.6	1.03	-0.45	0.06	0.5	5
Agency Reputation	7.1	7.2	1.47	-0.07	-0.30	2.6	10
Anxiety Level	5.5	5.45	1.66	0.31	0.52	1.5	10
Depression Score	4.8	4.7	1.39	0.41	0.42	1	9.5
Stress Level	5.9	5.8	1.77	-0.13	0.35	1.1	10
Self Confidence	8.2	8.2	1.00	-0.63	-0.13	5.7	10
Motivation Score	7.3	7.3	1.06	-0.01	-0.02	4.2	10
Life Satisfaction	7.0	7	0.88	0.23	0.16	4.4	9.8

5. Correlation analysis

In order to evaluate linear relationships between the amount of financial support and the psychological outcome variables, correlation analysis was done. The direction and strength of these correlations are shown by Table 5 and Figure 1 Correlation Heatmap.

Table 5. Correlation matrix

	Financial Support Amount	Anxiety Level	Depression Score	Stress Level	Self Confidence	Motivation Score	Life Satisfaction
Anxiety Level	0.93	1					
Depression Score	0.91	0.87	1				
Stress Level	0.97	0.95	0.91	1			
Self Confidence	0.81	0.70	0.66	0.75	1		
Motivation Score	-0.96	-0.91	-0.88	-0.94	-0.82	1	
Life Satisfaction	0.49	0.42	0.38	0.46	0.32	-0.66	1

The correlation matrix reveals significant associations between financial support amount and various psychological outcomes among student-athletes. Notably, financial support exhibits strong positive correlations with anxiety level, depression score, and stress level, indicating that higher

DOI: 10.54254/2754-1169/2025.GL32442

financial aid may coincide with elevated psychological distress, potentially due to performance pressures or expectations tied to sponsorships. Conversely, a moderate positive correlation with self-confidence and life satisfaction suggests potential empowering effects, such as reduced economic burdens fostering resilience. However, a negative correlation with motivation score implies that increased financial support might diminish intrinsic drive, possibly through external reward dependency.

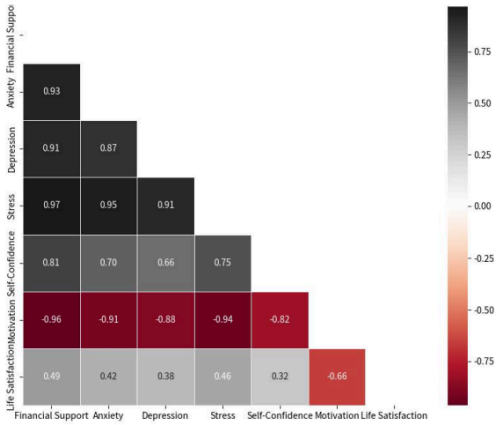


Figure 1. Correlation heatmap

From this figure, we are able to conclude that the level of economic support shows a notable positive correlation with the level of anxiety, depression, stress level, self-confidence and life satisfaction. This scenario suggests that more financial support that sport agencies put in, higher level of depression, anxiety, stress, but in the meantime, there are decreased levels of self-confidence, motivation and satisfaction in the current life situation.

6. Regression results

6.1. Single regression of financial support amount on anxiety level

The simple linear regression model examines the relationship between financial support amount and anxiety level among student-athletes (n=300), expressed as:

$$\text{Anxiety Level} = \beta^0 + \beta^1 \times \text{Financial Support Amount} + \varepsilon$$

Table 6. Single regression result on anxiety level

(n=300)	β (Coefficient)	p-value
Intercept	4.2672***	1.2E-140
Financial Support Amount	9.25E-05***	2.59E-56
Adjusted R-squared	0.5669	
Significance F	2.59E-56	

Note. ***p<0.001, **p<0.01, *p<0.05

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Table 6 indicate a significant positive coefficient for financial support, suggesting that higher support correlates with increased anxiety. The adjusted R^2 of 0.5669, implying that 56.69% of variance in anxiety is explained by support amount. The line fit plot can be seen in Figure 2.

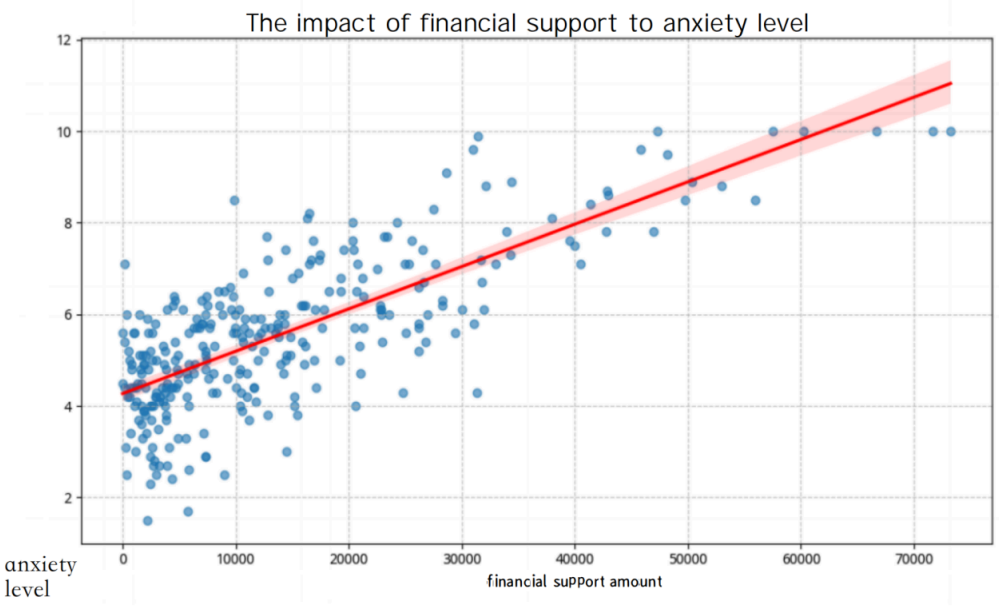


Figure 2. Financial support amount to anxiety level line fit plot

6.2. Single regression of financial support amount on depression level

The second simple linear regression model examines the relationship between financial support amount and depression level among student-athletes (n=300), expressed as:

$$\text{Depression Level} = \beta_0 + \beta_1 \times \text{Financial Support Amount} + \varepsilon$$

Table 7 indicate a significant positive coefficient for financial support, suggesting that higher support correlates with increased depression level. The adjusted R^2 of 0.5093, implying that 50.93% of variance in depression is explained by support amount. The line fit plot can be seen in Figure 3.

Table 7. Single regression result on depression level

(n=300)	β (Coefficient)	p-value
Intercept	3.7422***	2.9E-138
Financial Support Amount	7.38E-05***	3.29E-48
Adjusted R-squared	0.5093	
Significance F	3.29E-48	

Note. ***p<0.001, **p<0.01, *p<0.05

DOI: 10.54254/2754-1169/2025.GL32442

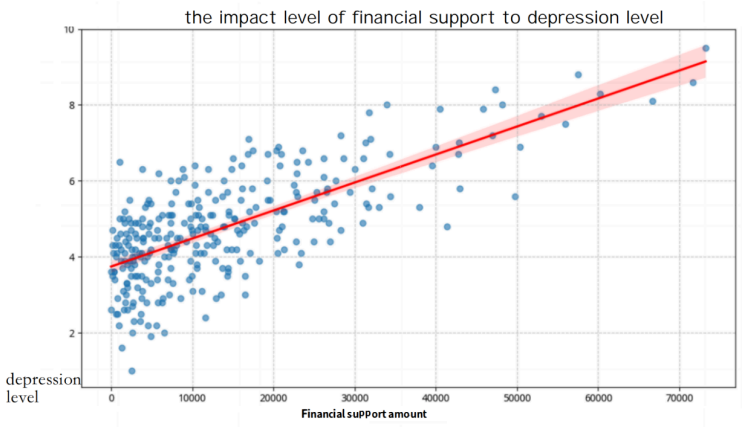


Figure 3. Financial support amount to depression level line fit plot

6.3. Empirical result interpretation

The above figures reveal intriguing patterns in the relationship between financial support amounts and student-athletes' psychological well-being. For support levels between $0 and $20,000, a substantial proportion of athletes exhibit elevated anxiety and depression scores, suggesting that modest or absent aid may exacerbate financial strains intertwined with academic and athletic demands. But with higher levels of support to $30,000 or more, high anxiety and depression cases fall off, suggesting some protection against these stressors. Again, however, the pattern is not regular; occasionally more money accompanies more anxiety and depression, which may reflect a two-way, complex dynamic. On the positive side, sport agency money appears to ease mental burdens for the majority of athletes. By releasing financial burdens such as tuition, training, or familial assistance, it instills a sense of security that can reduce worry and depression and improve self-worth. Sportsmen can better feel able to focus on play and academics, resulting in increased motivation and overall fortitude. This is in line with broader patterns in sport psychology, in which finance offers a foundation for psychological health, allowing sportspersons to thrive as opposed to merely existing in their dual roles [7]. Conversely, however, the negative impact cannot be dismissed as additional support sometimes adds distress in a variety of interrelated ways. Paced in the front is the heightened performance pressure: as stakes rise in dollars, so too do agency, coaching, sponsor, and even self-esteem expectations. The requirement to "pay back" investment can make enjoyment feel compulsory, with resultant chronic stress and anxiety. Also at risk is the loss threat; players are threatened with losing support due to bad game play, injuries, or grades, which can void their scholarships or NIL deals [8]. This potential fear can manifest in depressive tendencies, particularly within a highly competitive environment where one error feels catastrophic.

7. Conclusion

7.1. Major findings

Based on our analysis, the study's conclusions offer convincing insights into the complex relationship between student athletes' psychological health and the financial assistance provided by sports organizations. Financial support and negative psychological effects (stress, anxiety, and depression) are consistently positively correlated, which is consistent with the body of research on the pressures connected to sports professionalization. Even if financial incentives reduce financial

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strains, they seem to create new kinds of pressure because of performance standards, failure-related anxiety, and the need to uphold a particular public image, particularly in light of NIL deals [9]. This implies that performance may be inherently related to the perceived value of the financial assistance, resulting in a conditional sense of worth that can be emotionally draining.

It is really concerning that there is such a negative correlation between inner motivation and financial help. The compromising effect or crowding out effect theory, which holds that outside rewards can reduce a person's intrinsic interest in an activity, is supported by this finding [10]. This could indicate that student athletes' love and enthusiasm for their activity, which initially motivated their involvement, may be replaced by an emphasis on monetary benefit. Burnout, a decline in enjoyment, and a greater chance of quitting their sport early are all consequences of this change. This suggests that although financial assistance is required, it should be handled carefully to prevent undermining the intrinsic drive that is essential for sustained athletic and personal success.

7.2. Implications

For sport agencies: Sports agencies should provide more than just financial services; instead, they should provide all-encompassing assistance that covers job development, financial literacy instruction, and mental health resources. Negative psychological effects can be mitigated by placing more emphasis on the whole development of athletes than just performance-based rewards.

For universities, departments and high schools: Universities and high schools should. This includes offering easily accessible counseling, stress management programs, and creating a culture in which the wellness of athletes takes precedence over sporting success alone. Training programs in financial management and opportunity identification are also needed. assist the mental health treatment of the student athletes [11].

For student athletes: Student athletes ought to be encouraged to form healthy coping strategies and seek help when necessary. Being aware of the possible psychological price of financial aid will enable one to prioritize his or her long-term health and make the right decisions.

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