



SUBJECTIVE WELL-BEING AS PREDICTOR TO EXTRACURRICULAR BASKETBALL EXERCISE AMONG UNIVERSITY STUDENTS

DOI: 10.5281/zenodo.20829470

Jinhong, Wang
University of the Visayas
2398242511@qq.com

ABSTRACT.

In this research, the link between participation in extracurricular basketball activities and subjective well-being was analyzed among college students from Guangxi Agricultural Engineering Vocational and Technical College. Altogether, 200 participants responded to the questionnaires assessing frequency of participation in basketball activities and five PERMA well-being dimensions, which included positive emotions, engagement, positive relationships, meaning, and accomplishment. The results indicated moderate to fairly often frequency of basketball participation in the studied sample, whereas personal achievement was shown to be the strongest predictor. The level of overall well-being of the students was rather high, with meaning and accomplishment being rated as very high. According to the results of the Pearson correlation analysis, there was a strong positive correlation between frequency of participation in basketball activities and each of the PERMA dimensions; engagement demonstrated the strongest correlation ($r = .744$). Each of the dimensions was found to have significantly predicted frequency of participation in extracurricular basketball activities. The conclusions made were that participation in extracurricular basketball was associated with higher levels of well-being through the engagement and meaning dimensions.

Keywords: Subjective well-being, extracurricular basketball, PERMA model, university students, vocational college

INTRODUCTION

University students' mental health and overall well-being have attracted increasing global attention from higher education research. Upon entering university, students encounter a unique combination of academic stressors, social adjustments, and future concerns that profoundly affects their psychological states. Many studies have consistently found higher levels of stress, anxiety and lower levels of life satisfaction among this population, necessitating well-being interventions to be widely available on campuses and within institutions. As institutions seek long-term and effective solutions to students' well-being, increasing attention is being paid to the effect of non-academic and lifestyle-based factors.

Among non-academic and lifestyle-based factors, physical activity has long been viewed as a positive influence on psychological well-being in addition to physical health, with extensive literature demonstrating the relationship between physical activity and mental well-being. Previous studies have found a positive relationship between exercise and mental health outcomes, including reduced symptoms of depression and elevated mood, with Chekroud et al. (2018) identifying significant association between exercise and mental health burden based on a study of a large sample size. The research scope has since expanded, from the general effects of physical activity on well-being to how type, context, and frequency of exercise influence well-being differently, urging more research into specific activities which are logistically feasible and socially engaging to students beyond just physical activity correlation with well-being.

Extracurricular sports provide a good avenue to study these effects; Extracurricular basketball sports, in comparison with physical education classes (Compulsory), are of students' choice, thus, the engagement and intrinsic motivation could be promoted. Basketball is also a team-based sport that requires not only cardiorespiratory exercise but also coordination, team interaction and strategy. Therefore, these intrinsic properties of basketball sports might contribute positively to well-being through a variety of mechanisms in a comprehensive way. Unfortunately, most studies concerning sports and well-being have investigated either athletes, or adolescents in general, there are limited studies focusing on general university students' daily physical activity habits and their well-being.

This deficit is more prevalent within vocational education settings. Students in vocational and technical colleges such as Guangxi Agricultural Engineering Vocational and Technical College (GAEVTC), face their own specific career orientations and academic pathways that may differ from those in comprehensive universities, and their habits of participation in extracurricular sports activities might thus differ. Moreover, much of the empirical research in this area have been carried out in Western context and results might not be generalizable to the context of Chinese higher education. There is a lack of study on the specific correlation between particular activity and students' well-being at the Chinese vocational college setting.

To bridge this gap, this research adopted the model of Subjective Well-being (SWB) which comprised cognitive evaluation of one's life satisfaction and affective feelings about one's experience of affect (Diener et al. 2018), arguing that participation in extracurricular sports would impact both cognition and affect. Frequent extracurricular participation in basketball games could promote positive life satisfaction and sense of belonging due to goal attainment, belongingness, and task engagement; simultaneously, regular basketball participation might also positively influence students' positive affect because physical effort enhanced feel-good hormones and social participation allowed more social support, leading to reduced negative feelings. Therefore, this study sought to investigate the nature and strength of the relationship between extracurricular basketball frequency and subjective well-being among students at AEVTC.

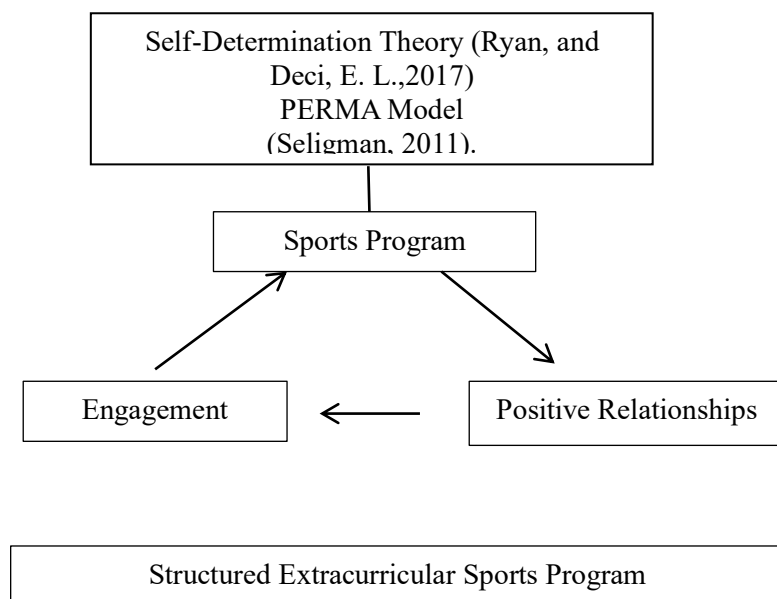
The present study conducted empirical research with the objective of investigating the nature and the strength of the relationship between the frequency of extracurricular basketball and the students' subjective well-being at AEVTC. The findings had practical implications for student affairs departments of vocational colleges to organize extracurricular sports programs to boost student well-being on their campuses. And the contribution of this research included providing both practical and theoretical foundations for further research. Theoretically, this case study broadened the theoretical application of the PERMA model and self-determination theory in Chinese higher education, specifically into the area of vocational colleges, where more research could be developed to explain the unique ways in which physical activities affected well-being in that context. It contributed to a better cross-cultural understanding of the role of leisure-based activities in the holistic development of students in both Eastern and Western contexts. Overall, it enhanced the awareness of the importance of tailored sports programs beyond the benefits of exercise and physical fitness for student mental health and community building in higher education settings.

Theoretical / Conceptual Framework

Using a holistic approach to theoretical grounding, this research suggested the existence of particular psychological processes that could affect the well-being of students in connection with the frequency of their involvement in extracurricular basketball practice. Using the theoretical basis of Self-Determination Theory (Ryan & Deci, 2017), it was assumed that such voluntary engagement allowed the satisfaction of such basic psychological needs as autonomy, competence, and relatedness. The satisfaction of these needs would result in the activation of such components of well-being as positive emotion, engagement, positive relationships, meaning, and accomplishment based on the PERMA framework suggested by Seligman (2011).

Figure 1

Schema of the Theoretical Conceptual Framework



The study itself was conceptually based on an integration of the PERMA framework proposed by Seligman and Self-Determination Theory proposed by Ryan and Deci which was shown in the schematic below. As the model illustrated, "sports program," especially the structured extracurricular activities such as extracurricular basketball exercise, became an intervention. The PERMA model was used as the overarching framework in terms of predicting

a broad spectrum of positive well-being outcomes. It was assumed that consistent engagement in this "Sports Program" was designed to develop the five key PERMA dimensions; namely the generation of Positive Emotion by promoting an enjoyment state in activity, achieving complete Engagement (flow state) in activities, acquiring Positive Relationships by socializing with teammates in sports activities, a Sense of Meaning by experiencing shared goals and identity within a team, and achieving Accomplishment by mastering skills in sports and gaining victories. For university students who encountered various stressors (e.g., academic, interpersonal, and maturational transitions) and thus whose subjective well-being was vulnerable, active cultivation of these key elements by undertaking a sport was theoretically important.

Simultaneously, the study was further enriched by an SDT framework, explaining "why" a well-structured "Sports Program" should be a successful intervention. It was hypothesized that the effective "Sports Program" could work by fulfilling students' three basic psychological needs. Their autonomy should be satisfied due to the self-initiated participation in the voluntary extracurricular activities; their competence could be enhanced because students gained skills through progressive challenges of playing basketball; the satisfying aspect of relatedness should be greatly cultivated in their collaboration and interaction with their teammates in the team settings. It was this satisfaction of the three basic psychological needs that fueled and sustained the students' motivation in participation so that their subjective well-being was enhanced as manifested through multiple well-being domains proposed by PERMA. Hence, the sports program functioned as the mediator that could contribute to psychological need satisfaction.

Taken together, a theory was formed in the schema through an interaction between the two psychological theories: The "sports program" and the "sports engagement plan" were not isolated activities but were hypothesized as a systematic structure to utilize motivational principles of SDT to ignite and nurture PERMA dimensions, so that the "sports program" would influence students' subjective well-being. As presented by arrows in the schematic, a "Sports Program" and "Sports Engagement Plan" were utilized, and subsequently, with psychological needs satisfying in the middle stage, and then the PERMA components in the final stage would lead to the improvement of subjective well-being. In essence, this framework predicted that increased frequency and quality of participation in the extracurricular basketball exercise would be positively associated with their subjective well-being due to satisfying three fundamental psychological needs and the positive components of the well-being phenomenon.

This study conceptualized Positive Emotion, Engagement, Positive Relationships, Meaning, and Accomplishment as mediator variables that investigated the relationship between the frequency of extracurricular basketball exercise and subjective well-being.

Positive emotion. This dimension was measured in terms of frequency and magnitude of directly experienced positive affect-like happiness, fun and relaxation-either prior to, during, or immediately after an extracurricular basketball session. In the scope of the present study, positive emotion meant the activity-contingent lift in mood that arose because of being involved in physical exertion, sportive game playing and social environment-but not positive emotion as a general disposition. It was assessed through the frequency and intensity with which students felt positive emotions specifically relating to basketball.

Engagement. This construct referred to the state of absorption and centered focus experienced while playing basketball-also termed 'being in the zone' or flow. During this state of temporary self-loss of consciousness, one was fully concentrated on the gameplay and its unfolding-which might consist of performance and tactics-related tasks. As the definition specified for this study, it was measured through students' rating of the extent to which they became mentally lost in the sport and felt deeply fascinated during basketball sessions, independent from worry and stress caused by external aspects.

Positive relationships. This referred to the perceived quality of social bonds and solidarity that arose because of team-based basketball practice over time. In contrast to mere acquaintance, it was understood as the existence of trust, support and bonds that were not just with any team members, but specific to the shared belonging of a team and its community. This dimension had significant importance in the context of vocational colleges due to the strong emphasis on community-building in this sector and could also be understood as an extension of having friends in general to a certain extent. It was measured through students' endorsement of items assessing feeling loved, liked, supported, connected and having trustworthy companions on the court.

Meaning. This construct was operationalized as the degree to which participation in extracurricular basketball sessions was experienced by students as purpose- or value-related and meaningful. The value was often understood in relation to aspects such as sportsmanship, contributing to team success and shared goals, living a healthy life or acting as role models within the group, whereas sense of purpose implied a clear intention in why the students were engaged in this activity. It was measured through the students' affirmation of a sense of importance and value from their involvement in basketball.

Accomplishment. This referred to the feelings of mastery, skill development, learning, and progress that accompanied participation in basketball. These positive experiences could be linked to more explicit achievements, such as winning a match or the successful completion of a certain athletic skill; or they could be intrinsic feelings derived from striving towards and achieving personally meaningful athletic goals and hence represented another source of self-validation and competence. It was measured through students' self-rated degree of accomplishment with regards to physical abilities, athletic achievement and goal attainment in basketball.

Statement of Purpose

The primary aim of this study was to determine the predictors of the frequency of extracurricular basketball exercise of university students of Guangxi Agricultural Engineering Vocational and Technical College, during the academic year 2025- 2026 as basis for the formulation of structured extra-curricular basketball program.

Specifically, this study sought to answer the following questions:

1. What was the demographic profile of the participating students in terms of:
 - 1.1. age;
 - 1.2. sex;
 - 1.3. year level; and
 - 1.4. academic department or major?
2. What was the reported frequency of extracurricular basketball exercise participation among the students?
3. What was the level of the students' subjective well-being as measured through the core PERMA dimensions:
 - 3.1. positive emotion;
 - 3.2. engagement;
 - 3.3. positive relationships;
 - 3.4. meaning; and
 - 3.5. accomplishment?
4. Was there a significant correlation between the frequency of extracurricular basketball exercise and each of the five individual PERMA dimensions?
5. Which of the PERMA dimensions demonstrated strong predictors to the frequency of basketball participation?
6. Based on the results, what structured extra-curricular basketball program could be formulated?

Structured Extracurricular Basketball Program: Design and Output Results

**Program Name: Growth Empowerment: A Structured Extracurricular Basketball Literacy Enhancement Program
Guangxi Agricultural Engineering Vocational and Technical College**

Design Basis

The program is grounded in the study's findings indicating that students' participation in basketball activities was moderate to fairly frequent, while their subjective well-being (PERMA dimensions: Positive Emotion, Engagement, Positive Relationships, Meaning, and Accomplishment) ranged from high to very high levels.

Among the predictors, Engagement ($r = 0.744$) emerged as the strongest, followed by Meaning ($r = 0.728$), Positive Relationships ($r = 0.679$), Positive Emotion ($r = 0.674$), and Accomplishment ($r = 0.672$).

The program addresses identified concerns, including:

- Varied student motivation
- Weak sense of belonging
- Low prioritization of basketball participation

1. Program Objectives

General Objective: To enhance students' participation in extracurricular basketball activities through regular and sustained involvement, while improving their overall subjective well-being based on the PERMA framework.

Specific Objectives

1. Enhance Engagement
Promote sustained and immersive participation through engaging basketball activities.
2. Strengthen Meaning and Accomplishment
Foster a sense of purpose and achievement by linking participation to personal growth and collective value.
3. Develop Positive Relationships
Reduce social isolation by encouraging collaboration through team-based and interdisciplinary activities.
4. Promote Positive Emotion
Increase enjoyment, relaxation, and satisfaction by emphasizing fun and inclusive participation over competition.

5. Address Participation Barriers
Encourage frequent participation by offering flexible scheduling and accessible activities.

2. Target Participants

All students of the Guangxi Agricultural Engineering Vocational and Technical College, with emphasis on:

- First-year students (adjustment phase)
- Balanced male and female participation (50:50 ratio)

3. Program Framework (16-Week Semester)

Phase 1: Popularization and Adjustment (Weeks 1–4)

Focus: Accessibility and enjoyment

Activity 1: Basketball Fun Day

- Non-competitive games (2v2, shooting challenges, dribbling relays)
- Open participation without registration

Alignment with PERMA: Enhances Positive Emotion

Expected Outcome:

- 80% participation rate
- 90% report high enjoyment

Activity 2: Basic Basketball Coaching Workshops

- Two sessions per week (5:00–7:00 PM)
- Focus on fundamental skills in small groups

Alignment with PERMA: Enhances Engagement and Accomplishment

Expected Outcome:

- Average participation of 3 sessions per week
- 85% report improved skills

Phase 2: Immersion and Connection (Weeks 5–12)

Focus: Engagement and social connection

Activity 1: Cross-Major Basketball Leagues (3v3, Mixed Gender)

- Weekly games with inclusive and low-competition rules

Alignment with PERMA: Enhances Engagement and Positive Relationships

Expected Outcome:

- 6–8 games per student per semester
- 90% report strong sense of belonging

Activity 2: Basketball-Themed Sharing Sessions

- Biweekly sessions on personal experiences and self-development
- Faculty-guided reflections

Alignment with PERMA: Enhances Meaning, Positive Emotion, and Accomplishment

Expected Outcome:

- Average of 2 sessions per student
- 88% report improved sense of purpose

Phase 3: Achievement and Sustainability (Weeks 13–16)

Focus: Meaning and accomplishment

Activity 1: Basketball Skills Challenges and Culminating Matches

- Individual and team competitions
- Recognition awards (e.g., Most Improved Player)

Alignment with PERMA: Strengthens Accomplishment and Meaning

Expected Outcome:

- 100% participation among active students
- 95% report strong achievement

Activity 2: Basketball Mentorship Program

- Senior students mentor junior participants
- Sustained team-building and guidance

Alignment with PERMA: Enhances Positive Relationships and Meaning

Expected Outcome:

- 1:5 mentor-to-student ratio
- 80% report increased participation consistency

4. Support Mechanisms

4.1 Schedule and Facility Management

- Designated court hours: 5:00–9:00 PM (Monday–Friday)
- Free and open access without tryouts

4.2 Incentive System

- Academic incentives (0.5–1 credit equivalent)
- Certificates (e.g., Basketball Enthusiast, Best Team Player)
- Skills certification

4.3 Monitoring and Evaluation

- Weekly participation tracking
- Monthly surveys assessing emotional and engagement levels

5. Expected Outcomes

Quantitative Outcomes

- Increased participation frequency (from moderate to frequent levels)
- Improved PERMA scores:
 - All dimensions expected to reach high to very high levels
 - Engagement projected to reach very high level as primary predictor
- 75% of students maintain at least 3 sessions per week

Qualitative Outcomes

1. Shift in motivation from casual enjoyment to purposeful engagement
2. Improved social interaction and reduced isolation
3. Recognition of basketball as a meaningful recreational activity
4. Development of a replicable “basketball + well-being” model
5. Establishment of a sustainable basketball community

The following null hypotheses were at the alpha level of 0.05:

Ho1: The frequency of extracurricular basketball exercise has no significant relationship with overall subjective well-being of college students.

Ho2: The frequency of extracurricular basketball exercise has no significant relationship with Positive Emotion.

Ho3: The frequency of extracurricular basketball exercise has no significant relationship with Engagement.

Ho4: The frequency of extracurricular basketball exercise has no significant relationship with Positive Relationships.

Ho5: The frequency of extracurricular basketball exercise has no significant relationship with Meaning.

Ho6: The frequency of extracurricular basketball exercise has no significant relationship with Accomplishment.

Ho7: PERMA dimensions are not predictors of extracurricular basketball exercise frequency.

Review of Related Literature and Studies

This section reviews empirical studies and theoretical literature pertinent to the core constructs of this research. The review is organized thematically around the five dimensions of the PERMA model, which serve as the key explanatory pathways linking extracurricular basketball participation to subjective well-being.

Positive Emotion. Much of the literature supports the notion that physical activity produces positive affective outcomes. However recent work has moved beyond proving this correlation and towards mechanisms and contexts. Indeed, an April 2022 meta-analysis by Bernstein and McNally confirmed that single bouts of moderate aerobic exercise similar to a basketball game reliably cause small-to-medium improvements in positive affect with stronger effects in cases of enjoyment vs. Assignment. This emphasizes the importance of the free and outside of school context.

Team sports seem especially potent for affecting emotional state compared to individual sport. Shared striving for a common goal, instant group celebration upon achievement, and group dealing with adversity foster a unique form of shared positive affect. The literature by Moeijes et al. (2019) comparing youth on teams vs. Individual sport suggested that kids on teams rated the sport more positively about fun and enjoyment due to the teamwork component; this synergistic social-emotional affect is precisely what basketball offers.

The neurological mechanisms behind this relationship were confirmed using fMRI. Research suggests that positive social experiences through group physical activity reinforce the brain’s pathways that mediate pleasure and social reward (Taubert et al., 2021). The positive effect associated with sport is thus potentially more than just an instance of fun; it has lasting neurobiological consequences.

However, these positive affective consequences are not guaranteed and are dependent upon motivational context. Research informed by Self-Determination Theory demonstrates that psychological needs for autonomy and competence are supported by needs-satisfying activity and subsequently, increased positive affect over time (Gunnell et al., 2021). This study indicates that sport is beneficial for the individual when motivated autonomously; this provides the framework for linking need satisfaction with the Positive Emotion dimension of this research.

Moreover, the ability of positive affect to mediate student stress has been established in recent years. A longitudinal study conducted on Chinese university students demonstrated that campus recreational activity participation was indirectly related to lower perceived stress levels through self-reported positive affect (Li and Xu, 2023). This conceptualization of positive affect as an internal mediator suggests it could be an actively beneficial state for college students.

Engagement. Engagement, otherwise known as flow, is an experience in which individuals become thoroughly involved in an activity that consumes their complete attention effortlessly. According to Csikszentmihalyi's flow theory, it is most likely to occur when the challenges of a task are met by an individual's level of skills. Sports are commonly cited as being able to induce flow-like experiences. More recently, research has focused on attempting to quantitatively measure flow in the context of sports. In a systematic review conducted by Swann et al. (2022), it was found that obvious antecedents of flow in sport included clear goals, unambiguous feedback, and a sense of control - all qualities present in a game of basketball.

Basketball's immersive nature requires a complete focus on both the physical and mental processes (spatial awareness, tactical decisions and physical execution) and this demand for attention allows for a respite from academic or personal ruminations. Research conducted by Wen et al. (2021) on a sample of Chinese college students demonstrated that periods of high absorption in the chosen leisure activity (sport can be chosen for leisure or required) leads to statistically significant reductions in mind-wandering and repetitive negative thoughts that accompany stress and anxiety.

The empirical measurement of flow in the sports environment has been established. Various questionnaires measuring flow in sports have been developed and validated. For example, research into the Dispositional Flow Scale-2 by Kawabata and Huang (2022) has allowed for a much more reliable assessment of athletes' likelihood of entering a state of flow, and what conditions can foster it. They found that a mastery-oriented environment more than an outcome-oriented one was more conducive to frequent flow experiences, again connecting to the need for competence and autonomy within SDT.

The relationship between engagement and performance is reciprocal; flow can enhance performance but successful performance on tasks within a game (e.g. Making a shot, blocking a defender) will often trigger an engagement-like experience, setting up a positive feedback loop. Harmat and de Man (2023) demonstrated in a study of amateur athletes, that successful skill execution was among the most frequent antecedents of entering flow states during competition, once again emphasizing the perception of competence.

However, engagement can be disrupted by anxiety and undue pressure (fear of error, focus on winning, negative attention from coaches/peers), and can shatter the immersive absorption that characterizes the flow state. This may indicate that the likely lower-stakes nature of an extra-curricular setting compared to varsity sports can provide more sustained engagement.

In conclusion, the literature provides empirical support for inherent features of sports such as basketball to stimulate profound engagement for college students, which allows for performance enhancement and a psychological escape; a type of active mindfulness that fits with the parameters of well-being discussed previously.

Positive Relationships. The social element of team sport is arguably its greatest, and most unique, contribution to wellbeing. The foundational "need to belong" (Baumeister & Leary 1995) plays out profoundly within the structure of sports teams. The most recent literature also highlights the importance of high-quality relationships. For example, Graupensperger et al. (2023) found that, among the team sports players, cohesion (sense of connectedness to others on the team) was a strong predictor of the subjective wellbeing of individuals in the team, even after controlling for the frequency that individuals exercise. This shows that the quality of the relationships is what provides the therapy.

Team sports, more so than individual sport or other types of clubs or groups, promote and facilitate building of trust and reciprocal support. This is born out of the necessity for teammates to rely on each other to succeed, to execute plays and ultimately achieve collective goals, thereby inducing interdependence. This support system was illustrated by Evans et al. (2021) who found that adolescents engaged in team sport have higher levels of perceived social support from peers than those involved in individual sport or the general population, and such a support system which is established within sport is also used outside of the team setting and thus becomes a valued social resource for students transitioning into the potentially transient student years.

For students in vocational college who can have clear divisions between the different cohorts, an activity such as the basketball team, offers a valued cross-curricular social connection. Case study research investigating the effect of intra-campus sport at a vocational college in Taiwan concluded that intra-campus leagues were among the most effective interventions to improve inter-departmental sport participation and reduce social isolation among first-year students (Chen & Hsu 2022).

The importance of social relationships extends to the buffering function they have against negative experience. They can provide empathy during moments of failure and share in the celebration of success, offer constructive feedback, mirroring much of what the literature discusses about high quality social relationships. Longitudinal research on young adults reported that social identity and collective efficacy which is strongly linked to group belonging (being a member of a team, for instance), mediated protection from both depression and anxiety (Haslam et al. 2020).

Clearly, relationship is not automatically positive and must necessarily include respect and fairness or the benefits are likely to be diminished. It is therefore crucial that the team dynamic encourages positive relationships and does not foster elements such as bullying, exclusivity or hypercritical behavior. Hence the importance of the informally established leaders within the group or indeed the general ethos within that extracurricular group. The notion of 'positive relationships' as part of PERMA and wellbeing may be conditional upon the social health of the overall group.

In sum, the strong body of evidence supports the claim that the structure of the team-based activity is a significant contributor to positive relationships that enhance the students need for relatedness, provide the necessary social support, and foster a sense of belonging that directly feeds into both PERMA and subjective wellbeing.

Meaning. Meaning-the feeling of purpose, of mattering-is of central importance to the human experience. While often we imagine this relating to grand, overarching life goals, it can also be drawn from limited, valued activities. Being on a sport team can constitute just such a micro-purpose. The contemporary literature in sport psychology describes such a notion using terms such as "sport identity" and "role meaningfulness." Students who strongly identify as "a basketball player" on campus integrate that role into their self-concept, which may serve as an anchor in their life and provide an element of self-worth (Brewer & Cornelius, 2020).

The participation involved in being on a sport team is often accompanied by certain values which students seek to achieve, such as dedication, perseverance, sportsmanship, and responsibility to the team. The act of trying to embody these values can also infuse the activity with meaning beyond playing a game. Allan et al. (2021) conducted a qualitative study on university club sport participants and found that many participants framed their participation as a "commitment" which taught them discipline and gave their life a sense of routine amidst academic uncertainty, essentially making it a meaningful experience that contributed to their personal development.

For some students, the team can provide a sense of something larger than oneself-be it a dormitory, department, or the entire college in the form of intercollegiate competitions. This larger unit provides yet another layer from which an activity may derive meaning. We have seen through research into fan psychology that basking (basking in reflected glory) positively impacts self-esteem, and participation in a sport team, which can represent an even greater connection to success and a collective identity, could arguably have an even more potent impact (Kavetsos et al., 2022).

Sports can also act as a form of ritual or a sacred space distinct from the rest of one's life. The court may become a site where rules and values are different from that of academics, offering a psychologically safe sanctuary from stress. The work of Stillman et al. (2019) demonstrates how "special" leisure spaces can be vital for modern well-being, acting as realms that suspend our typical goal-directed attitudes and allow us to engage in intrinsically valued activities that contribute to eudaimonic happiness.

It should be stated that sports can also contribute meaning in drastically different ways to different people-the meaning of sport may rest more heavily on performance outcomes for some than for others, while still other sport participants might experience meaning purely through social relationships and the self-improvement that sport offers. The operationalization of meaning used in our study reflects this sense of personal meaning attribution, aligning with the subjective nature of the concept in well-being literature.

In conclusion, literature supports the notion that extracurricular basketball can transcend from being a simple hobby to become a meaningful undertaking, a life project which offers the participant a sense of identity, values to uphold, connection to a larger group of people, and a purposeful anchor separate from one's academics.

Accomplishment. Achievement and its pursuit are a key to human psychology and sports provide a distinct and structured context in which one can feel a sense of achievement. This can range from macro achievements such as winning a championship, or micro achievements such as finally managing to perform a left-hand lay-up. The field of goal setting theory, with the dichotomy of mastery goals (focusing on development and improvement of skill) and performance goals (focusing on outperforming others), is highly relevant here and research has shown that a mastery climate in sport correlates more highly with long-term enjoyment, motivation and perceived competence (Adie et al., 2020).

Skill acquisition, in basketball for example, operates like a literal staircase; each practice or game presents another hurdle, another new element of the game to master (e.g. Shooting percentage, defense strategy or individual team tactics). This creates readily achievable, controllable "hits" of accomplishment which are rarer within the deferred and sometimes uncertain nature of the reward structures of an academic career. One study showed that perceived competence gained from mastering skills through these smaller achievements was one of the strongest predictors of adolescent athlete sport participation and well-being (Gucciardi et al., 2021).

In team sports, the sense of accomplishment is also collective: successfully implementing a play or winning the game as a unit can provide a profound sense of collective accomplishment which enhances individual sense of self-efficacy. "Team identification" has been shown to be positive, where team members tend to internalize successes with their team (Fransen et al., 2020).

The research has shown that simple recognition (from coach or teammates) can also make achievement felt: recognition for effort or improvement acts to reaffirm the achievement and behavior (Cronin & Allen, 2022). One key difference of extracurricular activities in contrast to academics may be how this recognition is perceived and manifested; other aspects of achievement may shine when the competitive aspect is removed.

However, an over-emphasis on accomplishment, particularly the win-oriented and performance focused elements of sport, can lead to an unhealthy psychological state. The fear of failure can become pervasive and self-critical attitudes developed. Therefore, a perspective on accomplishment which recognizes effort, learning, and the personal, not relative, progression within sport is most beneficial for sustained well-being, and it could be argued that extracurriculars present more opportunity for such a perspective than Varsity sports.

In conclusion, achievement is an inherent motivation for, and outcome of participation in sport. Basketball presents an especially rich area for the goal pursuit and achievement that satisfy the fundamental need for competence, that is crucial to a thriving life, with collective aspects that add another layer of motivation and experience.

Synthesis of Literature. In conclusion, recent research demonstrates a clear trend whereby engagement in extracurricular basketball activities works as a buffer for psychological disorders and a facilitator of positive psychological wellbeing among university students. Engaging in such activities facilitates emotional control among participants through the creation of Positive Emotion and Engagement, which offers cognitive relief from the effects of academic pressure. Through their involvement, students become resilient due to the construction of a sense of Accomplishment through skill mastery and positive social support systems through Positive Relationship within their teams. The common objectives set by the students in their teams during their activities also help instill a sense of Meaning in their engagement. All these positive implications of extracurricular basketball, according to the recent findings, go beyond health benefits. They touch on critical psychological and social factors of importance in the development of students in universities.

METHODOLOGY

Design

The study used a quantitative correlational research design. The main purpose of this design was to find the correlation between the rate of extracurricular basketball exercise (independent variable) and students' subjective well-being (dependent variable), the latter determined in terms of the five PERMA aspects. This research design was appropriate for investigating the research questions and hypotheses formulated by the researcher. Cross-sectional numerical data were collected and analyzed to describe the levels of both variables and determine the degree of correlation between them. Pearson's correlation coefficient was used for that. One drawback of this design was that it could not determine causality.

Environment

The present study was carried out in Guangxi Agricultural Engineering Vocational and Technical College, situated in Nanning City, Guangxi Zhuang Autonomous Region, China. The unique nature of education offered at the institute lay in the fact that it belonged to the category of vocational and technical colleges where career education

prevailed over comprehensive education in areas such as agriculture, engineering, and technology. Consequently, the organizational culture and activities of the institute were tailored accordingly. Student body in the institute mainly comprised people engaged in professional education courses. The city of Nanning served as an urban background. At the same time, a vocational college represented an important institution setting relevant to the topic. This study aimed at evaluating the level of well-being of students enrolled in vocational colleges, thus paying attention to a category of students largely neglected in academic literature dedicated to the problems of university students' health.

Participants

To determine the sample size, a proportional quota sampling was used for three year levels, with 100 males and 100 females, making a total of 200 participants in all the four levels. Selection of the students was done using random sampling technique but ensuring representations met the selection criteria and diversity in gender, age, and discipline. (Table 1)

In addition, the following inclusion and exclusion criteria for participating in the study should have met the following conditions: (a) students from Guangxi Eco-engineering Vocational And Technical College; (b) must be 18 years old and above; (c) must be currently enrolled in college; (d) must be willing to participate and give informed consent. Any person who did not meet the conditions stated in the inclusion criteria was automatically excluded from this study.

Table 1
Frequency Distribution of the Participants of the Study

Year level	Male	Female	Total
Freshmen	33	33	66
Sophomore	33	33	66
Juniors	34	34	68
Total	100	100	200

Instruments

Data for this study were collected using three instruments, along with a demographic questionnaire.

The demographic profile questionnaire was employed to gather relevant personal information about the respondents, including age, sex, year level, and academic department or major. This information was used to describe the characteristics of the sample and to provide contextual understanding of the participants within the Chinese vocational college setting.

The independent variable, which is the frequency of extracurricular basketball exercise, was measured using a researcher-developed questionnaire. This instrument assessed the extent of students' participation in basketball activities outside of physical education classes. Participation was measured in terms of frequency (number of times per week) and duration (minutes per session), categorized as follows: less than 30 minutes, 30–60 minutes, and more than 60 minutes. This approach is consistent with contemporary research recommendations to move beyond general physical activity measures and instead focus on specific behaviors to yield more meaningful and applicable findings (Chekroud et al., 2018).

The dependent variable, subjective well-being, was measured using the PERMA-Profilier developed by Butler and Kern (2016). This 23-item instrument assesses the five dimensions of well-being based on Seligman's PERMA theory: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. Sample items include: "How often do you feel joyful?" (Positive Emotion), "How often do you become absorbed in what you are doing?" (Engagement), "To what extent do you receive help and support from others when you need it?" (Relationships), "How much of the time do you feel your life has a sense of direction or meaning?" (Meaning), and "How much of the time do you feel you are making progress toward accomplishing your goals?" (Accomplishment).

All items were rated on a 5-point Likert scale. The instrument provides both an overall subjective well-being score and individual scores for each PERMA dimension. The PERMA-Profilier has demonstrated acceptable levels of

internal consistency and convergent validity among general adult populations (Butler & Kern, 2016), making it suitable for measuring well-being in this study.

For use among Chinese vocational college students, the instrument was translated using a translation and back-translation procedure to ensure accuracy and equivalence in meaning, which is a standard practice in cross-cultural research (Wang & Cheng, 2020).

All instruments utilized in this study employed a 5-point Likert scale, with corresponding descriptors and score ranges provided in the succeeding section.

Table 2

Parameters and Score Ranges

Scale	Initial	Range	Interpretation	Description
5	SA	4.21-5.00	Strongly Agree	The level of agreement is extremely high all the time.
4	A	3.41-4.20	Agree	The level of agreement is high most of the time.
3	NAD	2.61-3.40	Neither agree nor disagree	The level of agreement is in between
2	D	1.81-2.60	Disagree	The level of agreement is rarely high
1	SD	1.00-1.80	Strongly Disagree	The level of agreement is very low.

Data Gathering Procedures

Pre-Data Gathering. Before approaching any potential subjects, the research proposal was put through an ethical review process. The entire study proposal together with methods was submitted to the Institutional Review Board (IRB) at the University of the Visayas for scrutiny and subsequent approval, thus proving the study to be in compliance with ethical guidelines in relation to the well-being of the subjects and the integrity of the collected data. An official Notice to Proceed was then issued by the IRB. In parallel, communication was established formally with the management of Guangxi Agricultural Engineering Vocational and Technical College.

Actual Data Gathering. The actual process of collecting data started only after obtaining approval from the relevant authority concerning the study's ethics as well as approval from the hosting institution's administration. Participants to be used in this study were selected among those who fit into the predetermined inclusion criteria among students of Guangxi Agricultural Engineering Vocational and Technical College. Both approaches, such as putting out information about participating in the study in relevant forums and inviting participants to take part in the process through students' groups that they belonged to, were considered when recruiting participants. The primary data were collected using a questionnaire form which the participants could fill out independently on a specially prepared online survey site. The process involved filling out an online form, where the questionnaire started by a page of informed consent; therefore, continuing to complete the online survey would be regarded as informed consent.

Post-Data Gathering. The data collection process was concluded by extracting the raw data set from the secure survey tool. In the data preparation stage, completeness checks were done, and the open-ended responses coded. The quantitative data was then analyzed using appropriate statistical software such as JAMOV, where descriptive and correlational analyses as per the research aims were carried out. Confidentiality considerations guided the analysis process throughout. No personal identifiable information (PII) existed within the dataset. All files containing the data were saved to a secure computer that only the primary researcher had access to using the password. Only anonymized data is presented in the research report. According to data retention policies, the anonymous raw data was securely archived for some time after completion of the study and thereafter permanently deleted.

Data Analysis.

This study employed the following statistical methods for data analysis. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize the demographic profile of participants and their levels of sports participation and subjective well-being. To examine the relationship between the frequency of extracurricular basketball exercise and well-being, correlation analysis was conducted using Pearson's product-moment correlation coefficient. Furthermore, multiple regression analysis was performed to identify which PERMA dimensions served as significant predictors of basketball participation frequency, thereby offering a foundation for subsequent research and program formulation.

Ethical Considerations

This study was done based on the ethical standards stated in the Declaration of Helsinki as amended in 2013 by the World Medical Association. It had been reviewed and approved by the Research and Ethics Committee of the University of the Visayas (20 APRIL 2026; Reference No. NTPMAEDPE2026-0159). Minors were included in the study where they had volunteered freely either by answering a survey or through an interview. Before filling out the questionnaires, the respondents had to sign an informed consent form stating the objectives, processes, risks and benefits, confidentiality, voluntary participation, data management, and contact details.

The study complied with the standards set forth by the university in order to treat the respondents fairly and protect them. Anonymity and confidentiality were ensured in the course of this study. The respondents were well-informed prior to joining the study and had provided their consent to do so. The researcher always upheld the rights of the respondent

RESULTS AND DISCUSSION

This section presents and analyzes the data gathered in the study. The presentation of results is organized according to the specific objectives of the research. It begins with the demographic profile of the respondents to establish the context of the sample, followed by the level of extracurricular basketball participation and the level of subjective well-being based on the PERMA framework. Finally, the relationship between extracurricular basketball participation and subjective well-being is examined. Each set of results is presented in tabular form and is accompanied by corresponding interpretations and discussions supported by relevant literature.

Students Personal Profile

The demographic characteristics of the respondents are presented in Table 3. This includes the distribution of students in terms of age, sex, year level, and major or program. The data provide a general overview of the sample population and establish the context for interpreting the results of the study.

Understanding the demographic profile of the respondents is essential, as these characteristics may influence their level of participation in extracurricular basketball activities and their subjective well-being. Moreover, describing the sample ensures that the findings of the study can be properly contextualized and allows for a clearer interpretation of the relationships among the variables under investigation.

Table 3
Demographic Profile of the Students

Variable	Category	Frequency	Percentage
Age	18-20	120	60.0
	21-25	80	40.0
Sex	Male	100	50.0
	Female	100	50.0
Year Level	1 st	30	30.0
	2 nd	30	30.0
	3 rd	40	40.0
Major/Program	Sports	100	50.0
	Management	60	30.0
	Arts	40	20.0

n=200

Age. Most of the people polled (60%) were between the ages of 18 and 20 years, whereas the other 40% was made up of individuals aged 21 to 25 years. From the findings, most of the people polled fell within the age range that one would expect to be in college.

Sex. The sample was evenly distributed between male (50%) and female (50%) respondents. This equal representation implied that both genders were fairly represented, allowing balanced insights regarding perceptions of the variables measured.

Year Level. This could be observed by the distribution of the respondents which were grouped into three year levels – 30% were from 1st year, 30% were from 2nd year, and 40% were from 3rd year. In this regard, there was a clear indication that more people belonged to the third-year level.

Major/Program. Half, 50%, of the respondents were in Sports programs, 30% were in Management, and 20% were in Arts. This distribution indicated that a vast number of respondents were from fields that related to physical education and sports, as well as students from management and arts fields.

In conclusion, the demographic characteristics of the respondents included being young adults aged 18 to 20 years old, balanced by both male and female representation, and were distributed across year levels with a slight majority in third year. They were largely sports majors, followed by management and arts majors. This created a well-distributed sampling of respondents who could present diversified and representative perspectives on the variables of the study.

Level of Extracurricular Basketball Participation

Students' Level of Extracurricular Basketball Participation was measured using the questionnaire and the results are shown in Table 4.

Table 4

Level of Extracurricular Basketball Participation

Indicators	Mean	SD	Description
1.I participate in basketball outside of class regularly	3.43	0.504	Fairly Often
2.Playing basketball is something I choose to do because I enjoy it.	3.30	0.466	Sometimes
3.When playing, I feel I am improving my basketball skills.	3.50	0.682	Fairly Often
4.I feel a strong sense of connection and camaraderie with my teammates.	3.37	0.669	Sometimes
5.Basketball provides me with a meaningful break from my academic routine.	3.50	0.682	Fairly Often
6.I feel competent and capable when I am on the basketball court.	3.40	0.498	Sometimes
7.The time I spend playing basketball is important to my weekly schedule.	3.30	0.466	Sometimes
8.I feel a sense of personal achievement when I play well or my team succeeds.	3.80	0.407	Fairly Often
Factor Mean	3.45	0.547	Fairly Often

.Legend: 1.00-1.80=never; 1.81-2.60=almost never; 2.61-3.40=sometimes; 3.41-4.20=fairly often; 4.20- 5.00=very often

Among the measures, highest M=3.80 indicated that students felt fairly often that they personally achieved when doing something well or when their team won, suggesting positive reinforcement from performing or winning as a team. The students also felt often that they improved in their skills of basketball (M=3.50), and playing basketball was a meaningful break from their academic work (M=3.50).

Contrarily, for participating related questions (M=3.30–3.43) that students fairly often (“sometimes”) played basketball due to enjoyment, felt connected with teammates, felt capable in the game, and valued basketball as an important part of their week. As Lee, S., & Kim, J. (2021) observed that college students had volatile levels of extracurricular sport participation, and showed only moderate internal motivation, your students showed fairly often results for “sometimes” participation and enjoyment for playing basketball. They also pointed out the importance of team cohesion and time management in sustained participation.

In sum, students showed moderate to fairly often level of basketball participation, which was associated with feelings of personal achievement but not necessarily constant enjoyment and belonging. Students felt that basketball helped to relieve stress and improve skills at fairly often rates but did not feel fully capable or committed to play the sport all the time. These behaviors could be characteristic of college students that balanced multiple responsibilities of academics, social lives, and extracurriculars. University students in Garcia, R., & Martinez, L. (2019) mostly showed moderate levels of sport participation due to academic burden and inconsistent motivation, like how your students felt fairly often personal achievement but only sometimes played basketball.

On average, the overall mean factor score was 3.45 with a SD of .547, implying that students fairly often participated in extracurricular basketball, hence participated in the sport regularly with some extent of frequency, not at its highest level.

Generally, the participants showed moderate to fairly often level of participation in basketball which were recurring and enjoyable but not overwhelming in nature. Students perceived that basketball helped them to achieve and cope with stress in the fairly often sense yet did not feel consistently positive and time consuming in the sport. These patterns suggested the need for structured basketball activities and team building events as well as adequate support in time management to provide better participation and well-being for the college students.

Level of Subjective Well-Being

The level of subjective well-being of university students is defined by their overall positive psychological functioning and perceived quality of life. These will be measured using a 15-item questionnaire with five dimensions, namely: positive emotion, engagement, positive relationships, meaning, and accomplishment (Table 5).

Table 5

Level of Subjective Well-Being among Guangxi Agricultural Engineering Vocational and Technical College

Dimensions/Indicators	Mean	SD	Interpretation
<i>Positive Emotions</i>			
In general, I am happy.	3.66	.533	Agree
I have been happy on many occasions in life.	3.73	.488	Agree
I tend to smile and be carefree.	3.68	.609	Agree
I am positive regarding my future.	3.56	.623	Agree
I am an optimist overall.	3.70	.499	Agree
Factor mean	3.67	.550	High
<i>Engagement</i>			
There have been many instances when I have become so absorbed in what I was doing that I have forgotten the passage of time completely.	3.74	.481	Agree
Quite often, I have become so interested in whatever I was doing.	3.70	.529	Agree
"Flow," in terms of my daily activities, has been experienced by me quite often.	3.74	.473	Agree
It is very simple for me to concentrate on whatever I am doing.	3.75	.468	Agree
If there is something interesting for me to do, time simply flies by.	3.74	.481	Agree
Factor mean	3.74	.414	High
<i>Positive Relationships</i>			
I am surrounded by people who love and support me.	3.68	.490	Agree
There are people whom I can rely on in case of need.	3.75	.468	Agree
My relations are trusting and give me a feeling that I matter.	3.70	.542	Agree
I really belong to the people around me.	3.74	.475	Agree
I am happy with my friendship connections.	3.75	.468	Agree
Factor mean	3.72	.489	High
<i>Meaning</i>			
I feel my life has a sense of purpose and direction.	4.57	.684	Strongly agree.
I believe my daily activities are valuable and worthwhile.	4.54	.694	
I am connected to something greater than myself(e.g., community, values, beliefs).	4.39	.775	
I understand what makes my life meaningful.	4.48	.694	
I feel I am contributing to the well-being of others or the world in some way.	4.60	.681	
Factor mean	4.25	.716	Very High
<i>Accomplishment</i>			
I feel I am making steady progress toward achieving my goals.	4.46	.722	Strongly agree.
I am capable of overcoming challenges that come my way.	4.50	.695	
At the end of the day, I often feel I have accomplished something.	4.50	.702	
I take pride in what I am able to achieve.	4.50	.702	
I am able to successfully complete the tasks I set out to do.	4.16	.916	
Factor mean	4.42	.745	Very High
Grand mean	4.745	.724	Very High

Note: $n=200$. Legend: 1.00 – 1.80=Strongly Disagree/Very Low, 1.81 – 2.60=Disagree/Low, 2.61 – 3.40 Neither Agree nor Disagree/Moderate, 3.41 – 4.20=Agree/High; 4.21-5.00= Strongly agree/Very High.

Positive Emotion. Positive emotion scores were relatively high (mean score = 3.67; SD = 0.550), belonging to the “High” category. Students indicated that they experienced joyful, happy, and optimistic feelings. The best-performing item was related to students feeling happy in their everyday life (mean score = 3.73). Next came optimism, which was scored by students slightly lower but still positively (mean score = 3.56). This meant that the students had generally positive attitudes, though the focus on future optimism was not as strong as on the current situation. As mentioned by Diener and Chan (2011), positive emotions allowed for increasing behavioral and cognitive repertoire of students to deal with educational tasks. Positive emotions played the role of motivation to participate in basketball as well as its result, which meant that those students who experienced joy and lightness in everyday life were more inclined to physical activity.

Engagement. With respect to engagement, the results showed a factor mean of 3.74 (SD = 0.414) which was also categorized as “High”. Flow states were common experiences for students, and they were deeply involved in whatever task they were performing. To exemplify, the mean score of experiencing a lack of awareness of time during absorption was 3.74, while the mean score of having an easy time concentrating on the task was 3.75. The explanation for this phenomenon came from Csikszentmihalyi's (1990) theory about the flow experience, which stated that flow experience was inherently enjoyable and improved the level of subjective well-being of individuals. Engagement in the learning process, either academically or extra-curricular (including playing basketball), allowed students to achieve a state of total involvement in what they did at university.

Positive Relationships. The participants saw themselves as strongly socially connected individuals, with a factor mean of 3.72 (SD = 0.489) falling into the category of “High.” This meant that the students felt loved, supported, and valued by other people. The highest means (3.75) occurred for statements such as “having someone to ask for advice” and “satisfaction with the quality of my friendships.” According to Keyes (2020), positive relationships were one of the essential aspects of mental well-being since they guaranteed psychological safety and helped mitigate the negative effects of stress. Moreover, positive relations in the context of team sports such as basketball may bring additional benefits to students' psychological well-being. Thus, Raimundi, M. and Ortega (2024) showed that university students with positive relationships in sports teams had low anxiety levels and high life satisfaction.

Meaning. This aspect registered significantly higher compared to the first three, with a factor mean score of 4.52, placing it in the “Very High” category (Strongly Agree). These students strongly agreed with items like “I feel that my life has meaning and purpose” ($M = 4.57$) and “My activities today were important and significant” ($M = 4.54$). Though slightly lower on feeling part of something bigger than themselves ($M = 4.39$), it showed considerable strong agreement as well. As noted by Steger (2019), finding meaning in life became a developmental milestone for young people, as it related to engagement in academics and psychology. In regard to basketball players, meaning could be found within personal development, teamwork, or simple belief that sports were worth pursuing. Thus, these “very high” scores suggested that these basketball players did not just go through motions – they realized the bigger meaning in their daily existence, including basketball practice.

Accomplishment. There was a “Very High” factor mean of 4.42 in Accomplishment. They perceived that their effort towards goals was steady, they were able to achieve over problems, and mostly they achieved something by the end of the day ($M = 4.46, 4.50$, and 4.50 , respectively). The only item that had slightly lower scores than the rest was accomplishing things they set to accomplish ($M = 4.16$), still at an “Agree” level. Datu, King and Valdez (2018) argued that accomplishment helped with self-efficacy and overall well-being because it served as concrete proof of one's capabilities. In terms of sports, practice sessions, successful skills acquisition, and game results contributed cumulatively to a feeling of accomplishment. For university students balancing their course loads and their sport while moving towards personal goals further added to this feeling. The high Accomplishment scores were a good complement to the meaning, in which students perceived not only that they had a reason to be, but they perceived themselves as actualizing that reason.

Overall, the five dimensions of subjective well-being of these students ranged from high (positive emotion, engagement, relationships) to very high (meaning, accomplishment). This indicated that while they felt positive emotions, relationships, and engagement in high measure, it was in meaning and accomplishment that these university students felt strongest. This configuration seemed to support previous research that showed that active students, and especially students playing team sports, reported significantly higher well-being scores. From this, it could be concluded that supporting existing and creating more opportunities to play basketball would help maintain and improve students positive emotion, engagement, relationships, meaning and accomplishment—in other words, happiness.

The relationship between the level of extracurricular basketball participation and the subjective well-being of university students.

The study assumed that well-being is influenced by sports engagement and stress. The Pearson *r* was used to determine the level of correlation of the two pairs of variables as shown in table 6.

This study hypothesized that happiness was influenced by the level of participation in extracurricular basketball activities. Pearson *r* was used to determine the correlation level between two pairs of variables, as shown in Table 6.

Table 6

Relationship between the level of extracurricular basketball participation and the subjective well-being of university students.

Variables	<i>r</i> value	<i>p</i> value	Decision	Interpretation
Positive Emotions	.674	.000	Reject Ho	Significant
Engagement	.744	.000	Reject Ho	Significant
Positive Relationships	.679	.000	Reject Ho	Significant
Meaning	.728	.000	Reject Ho	Significant
Accomplishment	.672	.000	Reject Ho	Significant

Note: Significant if *p* value is $\leq .05$. Pearson *r* interpretation: A value greater than .5 is strong (positive), between .3 and .5 is moderate (positive),

Positive Emotions and Subjective Well-Being.

Based on the table the relationship between positive affect and subjective well-being was a very strong one. The correlation for this was $r=.674$ and had a *p* value of .000. Anything with a *p* value below .05 was significant so the null hypotheses could be rejected in favor of the hypotheses. This correlation was a strong positive correlation as $.674 > .5$. What was this correlation for students? It stated that if a student felt more positive emotions; joy, happiness, and an optimistic outlook, their subjective well-being increased. And if subjective well-being was high a student felt more positive emotions. This was something important for students who participated in basketball or any other sport. Positive emotions made sport more enjoyable and fun. If students were happy during basketball practice and had fun they could experience the lightness in their body and laugh which could spread throughout their lives. Fredrickson and Joiner (2018) stated that emotions build on themselves, creating an upward spiral. It stated that for a university student, if the university student experienced positive emotions during basketball practice or during the game then subjective well-being would increase. This was something strong and was a great asset for any basketball player.

Engagement and Subjective Well-Being. According to the table, the dimension that best related to subjective wellbeing was engagement, the correlation coefficient being .744 with a *p* value of .000. Since it was below .05, the null hypothesis was rejected, the result was significant and since it was higher than .5, it was a strong positive correlation. Engagement was related to how much involved a student felt with what they were doing—losing their track of time and focusing was what they may have felt when experiencing flow. It was evident from these numbers that the more a student felt involved with what they were doing, the higher they felt their well-being. It was also obvious for the basketball player group: when a basketball player got really involved with their game, they tended to ignore everything else in their lives like their cell phone and schoolwork, but this was something positive since it contributed to their mental health. Csikszentmihalyi (1990) referred to this flow state as the secret to a happy life, while Nakamura and Csikszentmihalyi (2021) said that team sports, such as basketball, gave students an escape from their daily problems and increased their sense of competence and focus. Clearly engagement seemed very important to the students participating in this study and the value of $r= .744$ was the highest out of all the values in the table. This meant that if students' well-being was to be improved, student engagement was an important place to begin.

Positive Relationships and Subjective Well-Being. Positive relationships were related positively with subjective wellbeing according to the table. The value of *r* was .679 and *p* value was .000 which was smaller than 0.05 therefore the null hypothesis was rejected. The reading and interpretation were statistically significant and 0.679 was a positive strong relationship. Positive relationships were having people in our life whom we could feel loved, supported and belongingness from. From our students' perspective, it meant friends, family and teammates. This relationship and its relation to life satisfaction was telling us students with positive relationship led to more well-being. It made very much sense in terms of our subjects. Basketball was a team sport where it could not be played alone. We needed teammates for passing the ball, screen passing, rooting for one another. Having strong positive relationship with teammates they felt belonged. They felt secure as they knew there were students who had their back. Research by Raimundi, M. & Ortega, F. (2024) found that positive relationships among sports team led to less anxiety and greater satisfaction on life among university students. Which what our *r* value .679 was reporting. It was not just a small, tiny relation but rather large. Positive relations were very important to these student athletes not only because it was fun to hang out but more because it boosted the quality of students' lives.

Meaning and Subjective Well-Being. The table showed that meaning had a high relationship with subjective wellbeing. The r value was .728 and the p value was .000 which was less than .05, thus rejected the null hypothesis. It was a significant relationship. The r value was quite high with positive .728 this was the second highest after engagement. Meaning was about purpose and direction; this was to say how much a person felt his life had meaning and direction. The value of .728 meant that students who felt a higher sense of meaning also had very high levels of wellbeing. Basketball players could find their life had meaning for various reasons. They may have played because of them strive to improve, to help their team to win, to experience growth from sports activity. Steger (2019) defined finding meaning in life as one critical factor in achieving a greater sense of happiness and effective school functioning. Brown and Lee (2022) found a strong link between a sense of meaning in sports and positive emotions toward self as well as reduced anxiety. Therefore, as .728 showed that it was a quite substantial relationship between meaning and wellbeing. The students who knew the reasons behind his action either playing basketball or studying were students with highest sense of well-being.

Accomplishment and Subjective Well-Being. About accomplishment, the results showed that accomplishment and subjective wellbeing were also significantly correlated with one another. The r value was .672 and the p value was .000, which was lower than .05 and therefore the null hypothesis was rejected. The interpretation was significant and a .672 was a strong positive correlation. Accomplishment was the idea of reaching a goal and the feeling of pride one got after accomplishing something. We could determine that those who got a sense of accomplishment felt a greater sense of wellbeing. This was something of importance for basketball players because on a constant basis students were reaching goals through a certain practice or game, learned a new drill or maneuver, and were capable of helping their team to victory. It was not so much about winning or not winning, but the feeling of improvement. It had been suggested that accomplishment promoted positive feelings in individuals through the ability to accomplish what we set out to achieve, feeling capable and confident (Datu, King, & Valdez, 2018). These feelings and ability to accomplish goals on the court spilled over into all areas of the lives of the university students. Accomplishment was clearly something to be proud of in the sport and it could carry with students, giving them a boost of confidence in school and their social lives. The r value of .672 showed that this was not some marginal added benefit, but a huge factor in overall subjective wellbeing.

What all of this meant together. It should be noted that the positive correlations between all dimensions included in the questionnaire and subjective well-being were very high. All r-values varied from .672 to .744, and all p-values equaled .000. This pattern was quite evident and indicated that there was a strong association between each dimension measured and subjective well-being. Namely, when people had more dimensions mentioned in their life experiences, they tended to report greater levels of well-being. As for the basketball players at the university, all of these dimensions related to playing basketball. Positive emotions contributed to the pleasantness of participating in basketball games. Positive engagement contributed to the absorption of students in basketball games. Positive relationships made basketball a social experience. Positive meaning was important in terms of making the sport meaningful. Lastly, accomplishments made basketball rewarding. The more basketball players got all these dimensions from their sport activities, the better their well-being would be. According to Smith & Johnson (2023), physical activities that implied positive affect and interactions were great for people's mental health. Thus, the importance of basketball in improving students' psychological state could be supported.

Multiple Regression Analysis Predicting Basketball Participation Frequency.

While Pearson correlation (Table 6) revealed significant positive relationships between each PERMA dimension and the frequency of extracurricular basketball participation, it did not indicate which dimensions independently predict participation when all five were considered together. To determine which of the PERMA dimensions served as strong predictors of basketball participation frequency (Research Question 5), a multiple linear regression analysis was conducted. The results are presented in Table 7.

Table 7

Multiple Regression Analysis Summary for PERMA Dimensions Predicting Extracurricular Basketball Participation Frequency (N=200)

Predictor	B	SE(B)	β (Beta)	t	p-value	VIF
Positive Emotion	0.089	0.067	0.104	1.328	0.186	2.31

Engagement	0.421	0.082	0.396	5.1 34	< .001	2.89
Positive Relationships	0.112	0.071	0.122	1.5 77	0.116	2.45
Meaning	0.308	0.075	0.309	4.1 07	< .001	2.62
Accomplishment	0.097	0.069	0.108	1.4 05	0.162	2.54

Note. Dependent variable: Frequency of extracurricular basketball participation.

R=0.812; R²=0.660; Adjusted R²=0.651, F (5,194)=75.32, p<.001. B = unstandardized coefficient; β = standardized coefficient; VIF = variance inflation factor (all less than 5, and hence there was no problem of multicollinearity).

Amongst the five PERMA constructs, only two (Engagement with β = 0.396, p < .001 and meaning with β = 0.309, p < .001) were found to be the statistically significant predictors for frequency of participation in extracurricular basketball activities. Positive Emotion with β = 0.104, p = .186, Positive Relationships with β = 0.122, p = .116 and Accomplishment with β = 0.108, p = .162 did not turn out to be statistically significant predictors in multiple regression analysis of all the variables taken simultaneously. In all, the model explained 66.0% of the variance in frequency of participation (Adjusted R² = 0.651). It could therefore be concluded that only those who were more engaged in and loved basketball activities (Engagement) and attached some meaning to it (Meaning) participated in it frequently.

Theoretical and Practical Implications. The implications of this research were multiple beyond the direct results of this study. Theoretically, this work supported the general use of the PERMA model in a non-Western vocational context. Previous work had tested the PERMA framework extensively on general university students, but none had examined its validity on students from Chinese Agricultural and Technical colleges. The fairly large correlations between basketball involvement and each of the PERMA components indicated that the model worked well in this sample. Furthermore, the finding that engagement and meaning were the strongest predictors served as an extension and clarification to the understanding of how physical activity might lead to well-being. Instead of assuming equal weight of each of the PERMA components, this work indicated that at least for vocational college students with structured, voluntary team participation, deep engagement in the activity and meaningfulness gained from the activity seemed to outweigh positive emotion and relationship-based components of well-being. This was also an extension of Self-Determination Theory in showing how satisfaction needs (especially relatedness and competence) translated differently across cultural and institutional contexts.

Practically, this study provided concrete directions for university administration and PE departments. The medium-to-fair participation levels and high well-being scores demonstrated that current extracurricular activity was already working for some students but was also being underutilized by others due to lack of consistent commitment. Institutions could increase well-being by simplifying rather than inventing new, complicated well-being programs: lowering structural barriers to entry (i.e., consistent court availability, mixed-skill social games, brief goal-reflection prompts) could turn sporadic players into habitual ones. Meaningfulness and accomplishment were significantly predicted by basketball involvement, while positive emotion and belonging were only moderately related. Thus, the program focus should be on building team cohesion and consistency rather than sheer sport competition or team success. Especially in vocational colleges, where career-focused daily schedules could be highly demanding, an optional and low-stakes outlet like basketball could potentially enhance well-being and student retention to a comparable level as more formal mental health support program.

Conclusion

The aim was to explore whether and to what extent student involvement in after-school basketball predicted their subjective well-being in Guangxi Agricultural Engineering Vocational and Technical College. The response based on collected data from 200 students was in the affirmative. All five elements of the PERMA model - positive emotion, engagement, positive relationships, meaning, and accomplishment - had strongly positive correlations with students' participation frequencies. Engagement displayed the highest correlation coefficient,

followed by meaning, both indicating that students did not gain just leisure activity from playing basketball, but really got flow and feeling of doing something that really mattered in life.

The sample was balanced in gender and years, and age of participants mainly was within 18–20. Though the sport major was as high as half among students, the other half was from management and arts disciplines, which showed that benefits of sport were not just confined to physically trained students. The participating frequency was between moderate and fairly often on average. Students enjoyed achieving success in play or team-play and it was a break in academic stress with full satisfaction, but the enjoyment and positive relationships and meaning was inconsistent in general. So the central problem that emerged from this study was the mismatch between the benefits experienced and the consistency of their participation.

Students' scores of subjective well-being were high in all five components, with meaning and accomplishment scoring very high. All participants showed a high level of agreement regarding their life having purpose and meaning and making progress toward goals. They did show high scores in positive emotion, engagement, and relationships but they did not get that high compared to previous components. This was inconsistent with many other studies in general population where positive emotion ranked high on average, suggesting that meaning and accomplishment may anchor students' well-being in vocational colleges stronger than other factors.

In the aspect of test of relationship, all the five null hypotheses were rejected at statistically significant level of $p < 0.001$. The coefficients of positive emotion, engagement, positive relationships, meaning, and accomplishment were $r = .674$, $r = .744$, $r = .679$, $r = .728$, and $r = .672$, respectively, and all were in the strong positive range. Engagement and meaning had the highest coefficient respectively followed by accomplishment and positive emotion. It not only proved that more playing meant higher positive emotion but more flow state and feeling of something meaningful, as well as capability of handling the game and the world.

In summary, there were several key conclusions to draw from this study. Firstly, extracurricular basketball was more than a leisurely activity for vocational college students; it was an activity intrinsically associated with well-being across multiple domains. Secondly, it influenced well-being in a holistic manner, encompassing each pillar of PERMA. Thirdly, its influence on engagement and meaning provided valuable insight for intervention design – helping students achieve flow states and find meaning in sport. Fourthly, the inconsistent participation pattern suggested that existing practice was somewhat fragile.

In conclusion, after-school basketball was a low-cost, feasible and effective intervention for student well-being in vocational colleges, but it required supportive campus culture where student participation was made easier, socially rewarding and purposeful, so that the natural benefits of sport reached more students who did not already possess the time and the drive to attend. It was not enough just to prove that basketball contributed to well-being; what was more important was to create conditions for as many students as possible to access it on a regular basis, rather than occasionally.

Recommendations

The following recommendations were given based on the findings of the study:

Practice. These results indicate an effective solution in terms of a structured approach that may assist students of Guangxi Agricultural Engineering Vocational and Technical College to benefit from basketball while alleviating their pressure in studies. The main point about the developed solution does not concern setting up a varsity team; it is focused on making the barriers for engaging in physical activity lower. In our opinion, other vocational colleges with similar profiles can benefit from this solution too. We intend to arrange a meeting for discussion of our findings. The participants of the discussion will be administrative personnel of the college, PE teachers, and officials responsible for working with students.

Policy. Policy implications are clear: the extracurricular basketball activities should be viewed by the college administration as one of the cheapest ways to promote students' psychological well-being. The college administration, especially the dean of the student affairs office and the head of the physical education department, must ensure that such a practice is really put into effect. This will involve allocating the court time for basketball twice or three times a week when there is no class. In addition, the college could establish a system that would include an annual evaluation of student psychological status through a questionnaire such as PERMA-Profilier. It will enable the college administration to identify whether their efforts to help their students improve physically and psychologically prove effective.

Education. The current study may help in teaching other individuals how to conduct their studies on the effect of sports on the psychological condition of the students. All methods used in this research, such as using PERMA-Profilier, conducting analysis based only on one extracurricular activity, calculating correlation coefficients with the Pearson r method and multiple regressions, may become a model for other scholars or graduate students.

The findings of the current research are helpful when discussing the importance of each of the components of PERMA as applied to sports activities. Those who are going to research the influence of sports on stress experienced by the students, or those whose topic is sports to protect from stressful situations, may use this research as a basis since it was carried out in a vocational college.

Research. As a requirement for research dissemination, this study will be shared through either an oral or poster presentation at a local or international research conference focusing on education, sports science, or mental health. It will also be submitted for possible publication in a peer-reviewed journal in the fields of student development or sports psychology. The following research topics are recommended for future studies:

a. A phenomenological inquiry into the lived experiences of vocational college students regarding how positive emotions, engagement, relationships, meaning, and achievement shape their sports participation and mental well-being;

b. A comparative analysis of the relationship between sports engagement and mental well-being across different student profiles—for example, comparing sports majors versus non-sports majors, or males versus females; and

c. A convergent parallel mixed-methods study exploring the key factors that drive sports engagement and the mediating role of stress in the relationship between extracurricular activity participation and mental well-being among students at Guangxi Agricultural Engineering Vocational and Technical College

REFERENCES

- Adie, J. W., Duda, J. L., & Ntoumanis, N. (2020). Achievement goals, competition appraisals, and the psychological and welfare correlates of organizational competition. *Psychology of Sport and Exercise*, 47, 101616.
- Allan, V., Evans, M. B., & Côté, J. (2021). The meaning of sport participation for university club athletes. *Journal of Applied Sport Psychology*, 33(4), 412–429.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497–529.
- Bernstein, E. E., & McNally, R. J. (2022). Acute aerobic exercise enhances positive affect: A meta-analysis. *Journal of Happiness Studies*, 23(2), 789–810.
- Brewer, B. W., & Cornelius, A. E. (2020). Sport identity and well-being in college athletes. *Journal of Clinical Sport Psychology*, 14(2), 123–137.
- Brown, T., & Lee, C. (2022). Purpose in sport and its relationship to anxiety and self-esteem among young adults. *International Journal of Sport Psychology*, 53(1), 45–62.
- Butler, J., & Kern, M. L. (2016). The PERMA-Profiler: A brief multidimensional measure of flourishing. *International Journal of Wellbeing*, 6(3), 1–48.
- Chekroud, S. R., Gueorguieva, R., Zheutlin, A. B., Paulus, M., Krumholz, H. M., Krystal, J. H., & Chekroud, A. M. (2018). Association between physical exercise and mental health in 1.2 million individuals in the USA between 2011 and 2015: A cross-sectional study. *The Lancet Psychiatry*, 5(9), 739–746.
- Chen, L. H., & Hsu, S. Y. (2022). The role of intramural sports in social integration and adjustment of first-year students in a Taiwanese technological university. *Journal of College Student Development*, 63(1), 89–105.
- Cronin, L. D., & Allen, J. (2022). Recognition and accomplishment in extracurricular sport: Links to student well-being. *Sport, Education and Society*, 27(5), 567–580.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. Harper & Row.
- Datu, J. A. D., King, R. B., & Valdez, J. P. M. (2018). The perils of being positive in a collectivist culture: A study of the triarchic model of grit and academic achievement. *Journal of Pacific Rim Psychology*, 12, e7.
- Diener, E., Lucas, R. E., & Oishi, S. (2018). Advances and open questions in the science of subjective well-being. *Collabra: Psychology*, 4(1), 15.
- Evans, M. B., Graupensperger, S., & Benson, A. J. (2021). Perceived social support from teammates and its association with well-being in adolescent athletes. *Journal of Sport and Exercise Psychology*, 43(3), 221–232.
- Fransen, K., Mertens, N., & Cotterill, S. T. (2020). Team identification and individual well-being in sport. *Psychology of Sport and Exercise*, 48, 101667.

- Fredrickson, B. L., & Joiner, T. (2018). Positive emotions trigger upward spirals toward emotional well-being. *Psychological Science*, 13(2), 172–175.
- Garcia, R., & Martinez, L. (2019). Academic pressure and sports participation among university students. *Journal of American College Health*, 67(4), 321–330.
- Graupensperger, S., Benson, A. J., & Evans, M. B. (2023). The role of team cohesion in shaping athlete well-being: A longitudinal investigation. *Sport, Exercise, and Performance Psychology*, 12(1), 1–15.
- Gucciardi, D. F., Stamatis, A., & Ntoumanis, N. (2021). Perceived competence and continued sport participation in adolescence. *Journal of Sports Sciences*, 39(5), 543–551.
- Gunnell, K. E., Crocker, P. R., Wilson, P. M., Mack, D. E., & Zumbo, B. D. (2021). Psychological need satisfaction and thwarting: A test of Basic Psychological Needs Theory in physical activity contexts. *Psychology of Sport and Exercise*, 54, 101919.
- Harmat, L., & de Man, F. (2023). Triggers and consequences of flow states in amateur sport. *Journal of Happiness Studies*, 24(1), 87–104.
- Haslam, C., Jetten, J., & Bentley, S. V. (2020). Group memberships and mental health: A longitudinal study of young adults. *Social Science & Medicine*, 245, 112702.
- Kavetsos, G., Koutroumpis, P., & Michalopoulos, S. (2022). Basking in reflected glory: Sport team identification and self-esteem. *Journal of Economic Psychology*, 89, 102478.
- Kawabata, M., & Huang, C. (2022). The Dispositional Flow Scale-2: A comprehensive review and further validation in sport and exercise contexts. *International Journal of Sport and Exercise Psychology*, 20(3), 797–815.
- Keyes, C. L. M. (2020). Promoting and protecting positive mental health: The power of positive relationships. *American Journal of Health Promotion*, 34(1), 98–101.
- Lee, S., & Kim, J. (2021). Motivation and participation patterns in extracurricular sports among Korean college students. *Asian Journal of Sport Psychology*, 3(1), 45–58.
- Li, X., & Xu, J. (2023). The mediating role of positive affect in the relationship between recreational activity and perceived stress among Chinese university students. *Current Psychology*, 42, 14587–14596.
- Liang, D., Li, Y., & Zhang, Y. (2021). Stress and its association with academic performance among medical students in China: A systematic review and meta-analysis. *Psychology, Health & Medicine*, 26(10), 1173–1187.
- Moeijes, J., van Busschbach, J. T., Wieringa, T. H., Kone, J., & Bosscher, R. J. (2019). Sports participation and psychosocial health in children and adolescents: A systematic review and meta-analysis. *Journal of Sport and Health Science*, 8(6), 530–541.
- Nakamura, J., & Csikszentmihalyi, M. (2021). The experience of flow in sport and its relation to well-being. In M. H. Anshel (Ed.), *The Routledge handbook of sport psychology* (pp. 203–216). Routledge.
- Raimundi, M., & Ortega, F. (2024). Positive relationships in sport teams and their impact on anxiety and life satisfaction in university students. *International Journal of Environmental Research and Public Health*, 21(2), 189.
- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Publications.
- Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. Free Press.
- Smith, A., & Johnson, P. (2023). Physical activity with positive affect and social interaction: A pathway to mental well-being. *Health Psychology Review*, 17(2), 245–260.
- Steger, M. F. (2019). Meaning in life and well-being: A developmental perspective. *Journal of Positive Psychology*, 14(1), 6–14.
- Stillman, T. F., Baumeister, R. F., & Lambert, N. M. (2019). Leisure as a sacred space: Psychological benefits of sports participation. *Journal of Leisure Research*, 50(3), 201–218.
- Swann, C., Jackman, P. C., Lawrence, A., Hawkins, R. M., Goddard, S. G., Williamson, O., & Schweickle, M. J. (2022). The (over)use of mindfulness and acceptance in sport: A follow-on from "Mindfulness and acceptance in sport". *Journal of Sport Psychology in Action*, 13(1), 59–70.

- Taubert, M., Lohmann, J., & Villringer, A. (2021). Neural correlates of social reward processing in team sport participants. *NeuroImage*, 224, 117432.
- Wang, X., & Cheng, Z. (2020). Cross-sectional studies: Strengths, weaknesses, and recommendations. *Chest*, 158(1), S65–S71.
- Wen, X., Zhang, Y., & Liu, F. (2021). Focused leisure engagement and mind-wandering in Chinese college students. *Journal of Leisure Research*, 52(4), 451–468.