

UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

Thriving or Surviving - A Look at UBC Student-Athlete Thriving (Group 17)

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Executive Summary

This study examined thriving in relation to three categories: mental thriving, performance thriving and academic thriving of varsity athletes that attend the University of British Columbia (UBC).

This study utilized the Qualtrics survey platform to collect responses from varsity athletes who were currently in their sports' respective competitive seasons. The sports included under this criteria were men's rowing, hockey, rugby, swimming, basketball, track and field, and women's rugby 15s and 7s athletes, basketball, track and field, hockey, rowing, and softball.

Participants answered questions related to the three defined categories of thriving in relation to different periods of the competitive season. Additionally, participants were presented with lists of different resources already provided by UBC Athletics and asked which, if any, resources they used, and if they experienced any barriers while accessing the resources. This data was then thematically analyzed and the Likert type scale data was quantified into means and standard deviations.

Findings suggested that the majority of respondents had minimal engagement with academic support and experienced minimal barriers when accessing the resources. However, respondents did suggest that there was minimal promotion or incentive to engage with different academic resources. Next, when reflecting upon performance thriving, participants seemed to be significantly more engaged with performance support. This included appointments with doctors, athletic therapists (ATs), massage therapists and strength and conditioning (S&C) coaches. Participants suggested that barriers were faced when trying to access the aforementioned opportunities. Similarly, respondents also seemed to suggest barriers were more common when trying to access mental health performance skills.

Based on our findings, we have four suggestions for UBC Athletics to help promote varsity athletes' thriving throughout the duration of a competitive season. Firstly, we have recommended that UBC Athletics further develop the T-Bird app to form a centralized base where student athletes can find information on a variety of mental, physical and academic resources. This centralization may be helpful to streamline information and for accessing resources. Next, we suggest that a calendar feature be added to this app, which could be utilized by individual teams to inform athletes of group study sessions, important academic dates and deadlines. The utilization of a calendar may encourage time management strategies, as well as, increase awareness surrounding academic resources. Thirdly, we recommend that they update reviews of the effectiveness and accessibility of the booking process for physical therapy, athletic therapy and doctor triage. Lastly, we recommend that UBC Athletics performs a longitudinal study on athletes thriving to better understand how thriving changes throughout a competitive season.

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Introduction and Literature Review

Introduction

From balancing classes to volunteering, socializing, and work-experience opportunities, the day-to-day life of a university student can be busy. Varsity athletes have to balance the aforementioned opportunities on top of an intensive training and travel schedule (Gayles, 2009). While some individuals may thrive under these conditions, others may experience greater fluctuations with regard to their mental, physical and academic thriving. This study on "Student-Athlete Thriving" is designed to investigate the variation in varsity athletes' thriving through the competitive season.

Notably, minimal research exists on the topic of potential fluctuating student-athlete thriving over a competitive season (Gayles, 2009). As highlighted by the University of British Columbia (UBC) Athletics in their project description, there is a significant deficit in studies examining fluctuations in athlete thriving throughout a competitive season. Schreiner et al. (2010) defined student thriving in relation to three categories: academic thriving, intrapersonal thriving and interpersonal thriving. Schreiner et al. (2010) suggests that a thriving student is one that is academically successful, and also engages with the learning process and contributes to the community. Similarly, Porath et al. (2012) examined the concept of learning in relation to a workplace, defining it as a continuous process of improvement. For this study, learning as a concept will be expanded and operationally defined as: a continuous process of improvement in all aspects of life, whether it be athletically, physically, academically, interpersonally, emotionally, spiritually, or any dimension in which concentrated effort to improve can provide enrichment to one's life. In addition to academic, intrapersonal, and mental thriving, this study

will add a third dimension: athletic performance. This category will be defined as performance thriving.

Although there is no concrete definition of vitality in the literature, it may be defined as experiencing a combination of physical and cognitive energy (Ryan & Frederick, 1997). Porath et al. defined vitality as “a sense of feeling energized and alive [...]”, highlighting the critical cognitive component of the disposition (p. 250, 2012). Vitality has been connected to a myriad of physiological and psychological health benefits, and thus, will be considered as a major indicator of athlete well-being throughout the competitive season (Lavrusheva, 2020). This study will adopt burnout as the antagonist to thriving. Burnout has been defined by Maslach & Leiter (2016) into three categories; (1) Exhaustion; feeling a depletion of physical and cognitive energy related to overworking; (2) Cynicism; a growing hostility or sense of disillusionment with the activity causing the stress, considered to be a protective emotional response to the overload; and (3) Professional inefficacy; a declining sense of adequacy or confidence to perform well in the activity, which may lead to diminished performance.

Literature Review

Under the umbrella term of thriving, Porath et al. (2012) consider two factors when looking at an individual's experience of well-being: vitality and learning. Learning and vitality can be examined specifically by evaluating outcomes such as general health, individual performance, and burnout (Porath et al., 2012).

Previous research conducted by Amorose et al. (2009) aimed to foresee changes in the well-being of athletes based upon changes in their need satisfaction. This includes their perception of sport competence, amount of agency they have when playing their sport, and their relationships with other people on the team. They assessed 93 adolescent female volleyball

players from ages 13-18, and collected data based upon their need satisfaction. The other category they studied was well-being, which covered self-esteem and burnout. Findings showed that need satisfaction changed over a competitive season, and that it was related to athletes' well-being. The three needs had a positive relationship with self-esteem during their pre-season, and then a negative relationship with burnout during their post-season. Amorose et al. (2009) suggested that greater focus should be given to involve athletes in decision-making, and appropriate feedback should be given to bolster feelings of competence.

Investigations conducted by Noon et al. (2015) looked at elite English youth soccer players (U17- U21) throughout their season to examine their well-being and athletic performance. A questionnaire evaluating motivation, sleep, recovery quality, appetite, fatigue, level of stress, and muscle soreness, was used to assess well-being. This approach is similar to the wholistic approach of Amorose et al. (2009), as they looked at multiple factors that impact athlete well-being. Noon et al (2015) tested athletic performance at the beginning of pre-season, the end of pre-season, the end of in-season 1, and the end of in-season 2. The tests performed were a 30m sprint, jump height, agility test, and yo-yo intermittent recovery test. The main finding from this study was that perceptions of well-being clearly decreased as the season progressed. The athletes also had slower sprint times by the end of the in-season. It was deemed that well-being was being negatively impacted by factors such as training, competition load, external pressures, and the athletes' personal relationships with people in their life.

Similarly, Watson et al. (2016) studied 75 female soccer athletes from age 14-17, to see if their subjective well-being and training load could predict in-season injury and their risk for illness. This study is similar to both Noon et al. and Amorose et al., as each study examines girls ranging in age from 13-18 years old. Athletes in the study by Watson et al. reported daily

evaluations throughout their 20-week season on their mood, fatigue, soreness, stress, and sleep quality. The intensity and duration of each session, as well as illness and injury, were reported too. It was found that increased injuries were associated with higher daily training loads. There were a total of 36 injuries throughout the season, and each one had a significantly negative impact on the athlete's mood, and therefore, their well-being. Moreover, well-being had an immediate and negative impact from an acute training load, and an increased risk of illness was correlated with a high chronic training load (Watson et al., 2016).

Comparably, Biggins et al. (2020) examined sleep, health, and overall well-being before, during, and after an international competition for elite athletes. Biggins et al. (2020) studied 65 male and female athletes from swimming, soccer, and track and field, in a longitudinal cohort study. During the competition, over half of the swimmers had moderate to severe sleep problems, compared to 45% of individuals before competition, and less than 10% after. These results differed from the other teams, where track and field was less than 10%, men's soccer at 10%, and women's soccer at less than 30% during the international competition. As well, during the competition, 82% of athletes reported less than eight hours of sleep each night, despite the recommended amount being 8-10 hours (Biggins et al., 2020). Sleep is vital for well-being and athletic performance, and without adequate sleep, these athletes were also at a higher risk of infection and altered mood (Biggins et al., 2020).

While existing research has advanced our understanding of athlete well-being across physical, psychological, and social dimensions, a comprehensive analysis of how athlete thriving evolves over a competitive season is lacking. Previous studies highlight important factors such as need satisfaction, sleep health, and the impact of injuries, yet they often focus on isolated aspects of well-being. Moreover, the majority of the mentioned studies have a younger demographic.

This makes the respective findings challenging to apply to university students, who may have to balance the challenges of adjusting to adulthood, while competing in their sport. This leaves a gap in our understanding of the ongoing development of wholistic thriving throughout the season.

Synthesizing the Literature

The collective body of research provides a comprehensive view of well-being in athletic contexts. Noon et al. (2015) extend this understanding by demonstrating a seasonal decline in well-being and its direct, negative impact on athletic performance, reinforcing the critical interconnection between an athlete's mental and physical health and their performance. Alongside, Amorose et al. (2013) emphasize the importance of satisfying athletes' psychological needs for fostering well-being and sustaining high performance, while Watson et al. (2016) reveal the detrimental effects of excessive training loads on athletes' mental health, hinting at the need for well-balanced training schedules. Biggins et al. (2020) highlight the role of sleep in physical recovery, proposing that adequate rest is as crucial to athletes' thriving as their training. Together, these studies suggest a wholistic approach to athlete well-being, intertwining psychological support, physical training moderation, and prioritized recovery, to cultivate an environment where athletes can truly flourish.

In synthesizing these findings, our project identifies a pivotal intersection. While each study contributes unique perspectives on well-being, they collectively underscore the essence of thriving as an encompassing state that transcends mere physical wellness to include academic success, mental resilience, and performance excellence. This wholistic view of thriving — rooted in, but distinct from well-being — illuminates the gaps in the literature. Particularly, a comprehensive exploration of how thriving evolves, and is sustained throughout the competitive

season among UBC varsity athletes is needed. Our project seeks to bridge these gaps by examining thriving in a more integrated manner, specifically how the interplay of these well-being components influences athletes' ability to flourish in all aspects of their lives. This sets the stage for targeted interventions and support strategies that address the unique needs of this population.

Purpose

The primary objective of this research is to explore the dynamic patterns of athlete thriving across different phases of the competitive season. By employing the Porath et al. (2012) survey, this study aims to answer the following research questions: (1) How do learning and vitality levels vary among varsity athletes at distinct points in their season—namely, those in their pre-season, and in the midst of their competitive season? (2) What is the effect of thriving dimensions on varsity athletes' performance, well-being, and academic engagement? (3) In what ways do the support systems and resources provided to varsity athletes throughout their season influence their levels of thriving?

Our research aims to fill the existing knowledge gap by providing empirical data on the temporal changes in athlete thriving. Secondly, the findings from this research are expected to inform the development of more effective support strategies and interventions by UBC Athletics. These strategies can be tailored to meet the needs of varsity athletes at specific times in the competitive season, thereby enhancing their overall thriving, performance, and well-being. In doing so, this study will not only advance academic understanding of athlete thriving, but also offer practical implications for athletic programming and support services at UBC.

The overarching goal of this study is to understand if, and how, the thriving of athletes fluctuates over these periods. This exploration focuses on dimensions of learning and vitality

across the various stages of an athlete's season, including pre-season preparation and the competitive season. An additional aim of this study includes making recommendations to the UBC Athletics department on how to increase student-athlete thriving.

Methods

Research Design

This study employed a mixed-methods study approach to explore the concept of thriving for UBC varsity athletes. Our research design drew inspiration from Porath et al. (2012), who meticulously developed a framework for understanding thriving at work.

To ensure the integrity and confidentiality of the collected data, our study employed the Qualtrics survey platform, a survey tool that adheres to Canada's privacy standards. This consideration is crucial for maintaining participants' trust and upholding the ethical standards of research and informed consent. This approach enhances the credibility of our findings and ensures that our study contributes to the body of knowledge on athletes thriving, while respecting the rights and privacy of our participants.

Target Population

Our study targeted UBC varsity athletes whose competitive or preparation phases are in Term 2 of the Winter 2023/24 school year. The rationale for targeting athletes in this phase of the season was to reduce recall bias as we collected data between March 19th, 2024 and March 27th, 2024. Additionally, in lieu of collecting data from different athletes at discrete points in their competitive seasons, collecting data from in-season athletes about their past and present experiences may serve to optimize observations of the individual nature of thriving and reduce

variability between subjects. Therefore, athletes with competitive or preparation phases in Term 2 or both Terms seemed to be the best match for data collection. We gathered responses from participants regardless of age, gender identity and race. Respondents were required to be rostered and able to compete in their sports' respective competitive seasons.

Inclusion and Exclusion Criteria

This study's inclusion and exclusion criteria are carefully delineated to ensure precision and relevance in our findings. Inclusion criteria encompassed all UBC varsity athletes who are at full training capacity and actively participating in their competitive seasons during Term 2 of the Winter 2023/24 session, or during both Term 1 and Term 2. This included athletes competing in softball, baseball, basketball, rugby, hockey, volleyball, golf, swimming, rowing, and track and field. Athletes competing in field hockey, soccer, cross country and football were excluded. The focus on in-season athletes is deliberate, aiming to capture the essence of thriving under the pressures and demands of competitive play. This approach allowed for a nuanced exploration of how varsity athletes navigate their sporting commitments, academic pursuits, and personal well-being, providing insights into the complex dynamics of athlete thriving. Our study included both undergraduate and postgraduate students, under both USPORTS, National Association of Intercollegiate Athletics (NAIA) and Cascade Collegiate Conference (CCC) regulations. This inclusivity ensures a broad examination of thriving across various stages of academic and athletic careers, enriching our understanding of the athletes' experiences throughout all years of eligibility and academic standing.

This study excluded athletes on injury reserve or redshirting (that is, athletes who are at full training capacity but were not competing in the Winter 2023/24 Term 2 season or in both the Term 1 and Term 2 seasons) to focus our research on those fully engaged in the competitive and

training environments. Moreover, athletes who had sustained injuries that prevented them from competing in their entire competitive season were excluded. By omitting these groups, along with athletes from intramural, recreational sports, and sports clubs, the study maintained a focus on the high-performance varsity athlete population to ensure the integrity and applicability of potential results and findings.

Recruitment Plan

This study utilized multiple methods to recruit participants. Firstly, posters were distributed in key athletic facilities including varsity weight rooms, locker rooms, and popular fitness centers like the Activities and Recreation Centre (ARC) and BirdCoop Fitness Centre. These locations are vital congregating spots for our target demographic, increasing the visibility and accessibility of our survey. Moreover, posters and survey links were distributed online through a few channels. Platforms including Slack were used to inform teams of the survey. Additionally, this study was distributed on the Canvas Thunderbird Student Athlete Portal.

Recruitment Target

We aimed to secure at least 80 survey responses by March 27, 2024, setting a minimum threshold at 40 participants to ensure the research's robustness and validity. This sample size is deemed sufficient to yield insightful and relevant findings, given the specific context and engagement level of the target population. The survey closed on March 27th at 11:59 pm.

Data Collection and Survey Questions

Our survey was composed of 39 open-ended and multiple-choice questions, each tailored to explore the dimensions of thriving as conceptualized by Porath et al. (2012). The front display of our survey was an informed consent form. It contained important information including: the

project's identification number, the principal investigator, Dr. Andrea Bundon, the purpose of the project, the study procedures, the project outcomes, the potential risks and benefits of participating, contact information and how to contact the research ethics complaints board (See Appendix C: Consent Form).

The survey assessed three categories of thriving: academic/learning thriving, performance/athletic thriving, and mental thriving. Within the survey, each category contained a definition for the type of thriving, as well as the available, corresponding resources for UBC varsity athletes. As a standard, in each section we asked participants to evaluate how difficult it is to access that category of resources and how often the participant has used them. These questions were a multiple choice format. Next, we asked participants to indicate how much they agreed with a series of statements using a 5-point Likert scale (1-Strongly Disagree; 2-Disagree; 3-Neutral; 4-Agree; 5-Strongly Agree). The statements were reflective and examined that specific type of thriving at different points in the competitive season. For example, athletes were asked to respond to three statements reflecting the three pillars of burnout identified by Maslach & Leiter for five timepoints throughout the competitive season (2016). The nature of the statements vary slightly between timepoints to reflect the changing context of the season, such as athletes focusing on goal setting early in the season and reflecting on accomplishments later in the season (See Appendix A: Survey). After completing all three sections, there were two open-ended written questions that allowed participants to elaborate and give suggestions regarding student-athlete thriving.

Data Analysis

For the data analysis, we integrated both quantitative and qualitative methodologies to provide a comprehensive understanding of athlete thriving. For the quantitative data, we

employed *JASP* software to determine the descriptive statistics including the means, standard deviation, skewness, and kurtosis of each survey question's distribution.

Open-ended questions offer insights into athletes' lived experiences, adding depth and context to the statistical patterns observed. For this qualitative data, we identified patterns and trends within the athlete population. To analyze qualitative data, thematic analysis was employed. To examine the concept of thriving, the words *well-being*, *mental health*, *performance*, *energy*, *health*, *happiness*, *stress*, *anxiety*, *workload*, and *fatigue* were coded. To examine the concept of access to and experience with resources, the words *information*, *awareness*, *knowledge*, *obstacles*, *barriers*, *cost*, *availability*, *booking*, *scheduling*, *effectiveness*, *benefit*, *communication*, *access*, and *services* were coded. These terms were coded and grouped into major themes, allowing for the examination of overall well-being and quality of care (Centers for Medicare & Medicaid Services, 2021) to further contextualize athlete thriving.

This integrative approach allows for cross-validation, where insights from qualitative analysis complement and corroborate quantitative findings, enhancing the study's overall reliability and validity (Creswell & Plano Clark, 2007 as cited in McKim, 2016). It facilitates a wholistic view of the factors contributing to thriving, moving beyond mere prevalence, to uncover the underlying dynamics and mechanisms. Such a comprehensive analysis is crucial for developing targeted interventions aimed at supporting athlete well-being and performance, ultimately offering actionable insights for future support strategies at UBC.

Results

Sample Description

42 total responses were included in the following analyses. 84 responses were initially collected, but 42 were excluded from analyses as participants did not meet the inclusion criteria or did not complete the survey. Of the eligible respondents, 54.8% had their competitive season across both Term 1 and Term 2, while 45.2% only competed in Term 2. 35.7% of respondents were softball athletes, making up the largest portion of the sample. 14.3% of responses were drawn from women's rugby 15s athletes, 10% from women's track and field athletes, and 11.9% from baseball athletes. The remaining responses making up a small fraction of the total sample were fairly evenly distributed between men's rowing, men's rugby, men's swimming, women's basketball, women's hockey, women's rowing, and women's rugby 7s athletes. Responses were not recorded from men's hockey, men's volleyball, women's volleyball, women's golf, men's golf, women's swimming, men's track and field, or men's basketball athletes. 16.7% of athletes were in their first year of eligibility, 33.3% in their second, 40.5% in their third, 7.1% in their fourth, and 2.4% in their fifth (Appendix A, Table A1).

Analysis of Resource Access and Likert Questions

Tables A2, A4, and A6 (Appendix A, Tables A2, A4, A6) provide the percent and number of athletes accessing resources and experiencing barriers in accessing resources. Tables A3, A5, and A7 (Appendix A, Table A3, A5, A7) provide descriptive statistics (mean, standard deviation, skewness, kurtosis) for Likert questions used to examine academic thriving, physical health and wellness, and general vitality of athletes throughout the competitive season.

Academic Thriving

Athletes were assessed on their experiences of thriving in the context of academics, in addition to their use and perceptions of resources offered by UBC to provide academic support. Athlete responses to items assessing their experiences of academic thriving indicated that alertness and personal & intellectual progress tend to decrease when progressing from pre-season to in-season (Appendix A, Table A3). 55% of athletes reported never using any academic resources for support (Appendix A, Table A2). Among the athletes that did access these resources, Varsity Team Academic Coaches (VTACs) were the most widely used (33.3% of respondents) (Appendix A, Table A2). 11.9% have used Thunderstudy, and 2.4% have used Academic Coaching (Appendix A, Table A2). Resources were commonly accessed once per month (16.6% of respondents), and 14.3% used them once per year (Appendix A, Table A2). Overwhelmingly, athletes reported a lack of barriers to accessing these resources (78% of respondents) (Appendix A, Table A2).

The *Academic Thriving Likert* questions were asked in the context of pre-season and in-season time points, and participants were asked to select on a scale from one to five how much they agreed or disagreed with the following statements (Appendix A, Table A3).

Item 1: *I wake up each day feeling alert and enthusiastic even when my workload is heavy*, had a mean response of 2.9 (SD = 0.9) in pre-season, and 2.4 (SD = 1) during in-season. The average response shifted from athletes feeling neutral about this statement to disagreeing with it as their season progressed.

Item 2: *I feel I am experiencing positive personal and intellectual growth even when academic pressures are high*. During pre-season, athletes leaned towards weak agreement with

this statement ($\bar{x} = 3.6$, $SD = 0.8$), and they became more neutral as their season advanced ($\bar{x} = 3.1$, $SD = 1.1$).

Item 3: *I feel that I am constantly moving forward even when my workload is challenging*, had a mean response of 3.7 ($SD = 0.7$) during pre-season, and 3.1 ($SD = 0.9$) during in-season. Like the previous question, athletes started in weak agreement, and shifted to feeling more neutral about this statement.

Item 4: *I feel that my energy is depleted when my workload increases* was a statement that did not drastically shift between pre-season ($\bar{x} = 3.7$, $SD = 1$) and in-season ($\bar{x} = 3.8$, $SD = 1$). This means that athletes were in weak agreement that their energy depletes as their quantity of work becomes greater, regardless of being pre-season or in-season.

Item 5: *I find myself stagnating when academic pressure increases*, had athletes weakly disagreeing during their pre-season ($\bar{x} = 2.7$, $SD = 0.9$), and then feeling more neutral during the in-season ($\bar{x} = 3.1$, $SD = 1.1$).

Item 6: *I feel that I am failing to progress when my workload is too high*, had a mean response of 2.8 during the pre-season ($SD = 0.9$) and a mean of 3.2 during the in-season ($SD = 1.1$). There was a slight shift from weak disagreement to weak agreement as time progressed.

Physical Health and Wellness

Athletes were examined on their experiences of physical health and wellness, in addition to their use of physical therapy and wellness services provided by UBC. Athlete responses to items assessing their experiences of physical wellness indicated that performance, exhaustion, and injury due to overtraining increase when progressing from pre-season to in-season (Appendix A, Table A5). 92.8% of athletes reported using these services, with 23.8% using them twice per week (Appendix A, Table A4). S&C coaches were the most commonly used resource

(78.6% of athletes), and Athletic Therapists (AT) (66.6%), Massage Therapy (50%), and Doctor's Appointments (45.2%) were also widely used (Appendix A, Table A4). 38% of respondents indicated that they experienced barriers to accessing these resources occasionally (Appendix A, Table A4).

The *Physical Thriving Likert* questions were asked in the context of pre-season and in-season time points, and participants were asked to select on a scale from one to five how much they disagreed or agreed with the statements (Appendix A, Table A5).

Item 7: *I can perform at my highest level with no constraining injuries*, had a mean response of 3.9 (SD= 0.8) during pre-season, and a mean response of 3.2 (SD= 1.1) in-season. As their competitive season progressed, the participants' responses shifted towards disagreeing with the statement, compared to at the beginning of the season where the mean was quite neutral.

Item 8: *I feel that any injuries I may be experiencing are solely from an accident and not from overtraining, tiredness, or any other external factors*. This statement had a mean response of 2.8 (SD= 1.1) during pre-season, and a mean response of 2.6 (SD= 1.1) in-season. Participants' responses began with a slight disagreement to the statement and as the competitive season progressed, responses became more negative.

Item 9: *I feel that my recovery is thorough and enough time is allowed to fully recover from a training session*. This statement saw a mean of 3.5 (SD= 0.9) during pre-season and a mean of 2.9 (SD= 1.0) in-season. Responses started as neutral, and throughout the season, shifted more

Mental Health

Athletes were assessed on their experiences of mental health and their use of mental wellness resources provided by UBC. Athletes indicated slight increases in disengagement and

cognitive exhaustion over the course of the competitive season (Appendix A, Table A7). Mental wellness resources were the least accessed of the services examined, with 66.7% of athletes never using these resources (Appendix A, Table A6). Among athletes who did, resources were more commonly used once per month, and seemed to increase in use by 4.8% in the in-season compared to pre-season (Appendix A, Table A6). Student Counseling Services were used most often (21.4% of athletes) (Appendix A, Table A6). These resources also presented few barriers to access, with 73.8% of students reporting no obstacles (Appendix A, Table A6). 14.3% occasionally experience barriers, and 4.8% experience barriers most of the time (Appendix A, Table A6).

General Vitality

Athletes were assessed on their experiences of vitality and burnout. In responding to items assessing their sense of energy, attitudes towards their activities, and their professional efficacy, athletes were examined on the extent to which they demonstrated signs of burnout, which we considered the antagonist to thriving and vitality (Maslach, 2016). Athletes indicated increased sentiments of exhaustion, reduced ability to manage workload, depleted enthusiasm, and performance decrements as the season progressed. Additionally, both the cognitive and physical aspects of burnout seemed to reduce as the season concluded (Appendix A, Table A7).

The *General Vitality* Likert questions were asked in the context of pre-season and in-season time points, and participants were asked to select on a scale from one to five how much they agreed or disagreed with the following statements. These responses were analyzed to provide insight on both experiences of vitality and burnout, as well as mental health, to acknowledge the wholistic and systemic impacts of burnout both cognitively and physically (Appendix A, Table A7).

All of the pre-season statements had athletes in agreement.

Item 10: *I feel motivated, excited, and energized to begin the season*, had a mean of 4.2 (SD = 0.8).

Item 11: *I am keen to set goals and prepare for the season ahead* had a mean of 4.2 (SD = 0.7)

Item 12: *I feel physically and mentally prepared to take on the demands of training*, had a mean of 4.0 (SD = 0.7).

The beginning of in-season statements had athletes in slightly weaker agreement.

Item 13: *I feel that I am able to manage the change in workload as I begin training*, had a mean of 3.9 (SD = 0.7).

Item 14: *I am enjoying my training and excited to be back in season*, also had a mean of 3.9 (SD = 0.9), and

Item 15: *I feel energized, competent, and confident in my performance*, had a mean of 3.7 (SD = 0.9).

The middle of in-season statements had more variability in the responses.

Item 16: *I am feeling physical and emotional fatigue from the demands of sport*, had a mean of 3.6 (SD = 1.0).

Item 17: *I feel disengaged and it is more difficult to remain focused in and out of competition*, had a mean of 2.9 (SD = 1.1), and

Item 18: *I am experiencing more physical stress, soreness, or incidence of injury*, had a mean of 3.5 (SD = 0.9).

End of in-season statement responses had weaker agreement.

Item 19: *I am looking forward to the decrease in training intensity after the season is over*, had a mean of 3.8 (SD = 0.9).

Item 20: *I am focusing on my accomplishments and feel proud of what I have achieved over the course of the season*, had a mean of 3.5 (SD = 0.9), and

Item 21: *I feel an increased need for rest and recovery*, had a mean of 3.9 (SD = 0.9).

Lastly, the post-season statements had some variability in the level of agreement of the responses.

Item 22: *I feel rested and am anticipating the beginning of the next season*, had a mean of 3.4 (SD = 1.0).

Item 23: *I am keen to set new goals*, had a mean of 4.0 (SD = 0.8), and

Item 24: *I feel I am able to prioritize recovery during this time and access support where I need it*, had a mean of 3.8 (SD = 0.9).

Thematic Analysis

Athletes were posed open-ended questions to elaborate on their experiences with or barriers to accessing resources provided by UBC and their sense of thriving throughout the term. In analyzing these responses, six key themes emerged: fluctuations in well-being, advertising of services, facilitating communication, improving efficacy, cost barriers, and resource availability. *Fluctuations in well-being* throughout the competitive season were emphasized by several athletes in the context of mental health and workload manageability, detailing their tendency to decrease as the competitive season intensifies. *Advertising of services* appeared to be a key obstacle for athletes in accessing these resources, as they expressed little knowledge of them when prompted, particularly academic support and mental wellness resources. Additionally, multiple athletes indicated weak impressions or knowledge of the potential benefits to using

these resources. *Facilitating communication* was emphasized by several respondents, reporting issues with getting in contact with coordinators, booking appointments, experiencing long wait times, and not being able to access the professionals they need when they need them. *Improving efficacy* of services was mentioned by some respondents who reported a perceived lack of benefit from having used academic and/or mental wellness resources. *Cost barriers* were noted by respondents as a barrier to accessing mental wellness resources in particular. Finally, *resource availability* was noted as one of the primary current shortcomings of the resources offered by UBC; athletes expressed sentiments that there were simply too few appointments available across multiple types of resources to adequately support the volume of athletes who may benefit from their use.

Discussion

Academics

Available academic resources include VTACs, Thunderstudy (before 2020), and Academic Coaching. The largest takeaway from this portion of the survey was the lack of awareness surrounding academic resources. Overall, athletes seem to be unaware of the potential benefits they could receive from accessing these resources. Some of these benefits include help with time management, study skills, and preparing for exams, essays, and final papers (Canvas, 2024).

Athletes appear to experience less academic thriving during their in-season, compared to their pre-season. Athletes' perceptions of their personal thriving consistently shifts in a negative direction, which indicates that thriving does change over the course of the competitive season. The learning process, a continuous process of improvement (Porath et al., 2012), becomes

weaker as time progresses. Vitality, a combination of physical and cognitive energy, and ‘a sense of feeling energized and alive’, also becomes increasingly negative based upon the time of an athlete’s season (Porath et al., 2012).

There is minimal research that exclusively examines the relationship between academic thriving and the timeline of a competitive season. It is recommended that further academic research be conducted to create a greater understanding of how academics affect thriving. The key focus of academic literature on thriving has been done in the context of well-being and stress. For instance, Amorose et al (2009) found that athlete well-being had a negative relationship with burnout during the end part of the competitive season. It was suggested that as workload increased, burnout also increased. These are the same results that we found from our survey. This suggests that feelings of exhaustion, cynicism, and professional inefficacy are more prominent as the competitive season progresses, as expressed by our participants.

Additionally, Noon et al. (2015) declared that factors including training, competition load, and external pressures, can negatively affect athlete well-being throughout a competitive season. We predict that an external pressure such as academic workload, combined with a high competition load, could induce a state of burnout.

A key finding within our study was that energy depletion consistently occurred as workload increased. The point of the competitive season, whether that be pre-season or in-season, did not appear to be a controlling factor for energy depletion. Energy depletion, and therefore exhaustion, is a key symptom of burnout (Maslach & Leiter, 2016). Our study adopted burnout as the antagonist to thriving, so this finding suggests that a greater workload results in reduced levels of thriving.

Performance Thriving

Based on the data collected, *Physical Thriving* seems to be the most utilized resource by the Varsity Athletes participating in the survey. The available resources include ATs, S&C coaches, massage therapy, doctor's appointments, and the triage clinic. Although the qualitative data suggests that AT and S&C coaches are the most utilized resources, further analysis shows that only 9.5% of participants use them weekly, and 23.8% use them twice a week. This indicates a significant distinction between athletes using them once a week, twice a week, or not at all.

Barriers to accessing these resources do seem to be a large concern for most of the participants, with 47.6% never experiencing barriers, 38.1% occasionally experiencing barriers, and 9.5% experiencing barriers all the time. These findings suggest that the demand for physical therapy resources was larger than the current capacity.

Key findings in our statistics revolve around athletes feeling less physically optimal and more deprived of recovery during the season. Striking a balance between optimal performance and adequate recovery and load can pose a significant challenge. Research suggests that the more stressful factors an athlete faces, the more likely they are to experience burnout (Maslach & Leiter, 2016). Physical performance and well-being play a substantial role in an athlete's overall health, making it crucial for them to receive timely and quality treatment when injuries occur.

In response to the problem proposed by UBC Athletics, athletes appear to experience less physical thriving/performance during their in-season compared to their pre-season. Throughout the responses, athletes continue to state that their thriving levels shift in a negative direction during their competitive season. During their competitive seasons, the intense training and competition schedules may lead to increased physical demands, heightened fatigue and potential overuse injuries (Watson et al., 2016 & Noon et al., 2015). According to Ryan & Frederick

(1997), vitality, defined as "a sense of feeling energized and alive," plays a crucial role in athlete performance, raising questions about its impact when injuries impede peak performance. The pressure to perform at the highest levels can also result in elevated stress levels, which negatively affect sleep quality and sufficient recovery, further emphasizing the decline in physical/performance thriving (Noon et al., 2015). Therefore, addressing these challenges becomes crucial in maintaining optimal physical and psychological well-being among athletes who are in-season. All of these factors combined, can potentially negatively impact one's physical thriving.

Mental Health

Resources placed under Mental Health, include Mental Performance Appointments, Wellness Advising, Student Counseling Services, Mental Health Appointments, and Wellness Support.

The data analysis gives a well-rounded collection of perceptions and experiences throughout the different progressions of a competitive season, providing insights into the utilization of the mental health resources among the athletes who participated in the survey.

Notably, 66.7% of athletes do not use the available mental health resources. This is a quite significant portion of athletes, and therefore, may suggest that there are gaps in accessibility and awareness of these resources. With mental performance, wellness advising, student counseling services, mental health appointments and wellness support all being offered to varsity athletes, it is a considerable concern that student-athletes are not taking advantage of these resources.

Although, from that 66.7%, it appears that the usage of resources increases during the in-season phase, compared to pre-season. However, further analysis on the barriers preventing

increased utilization is necessary. The majority of our participants reported experiencing no barriers (73.8%), although 14.3% experienced occasional barriers and 4.8% frequently experienced barriers. Based on our results, the dimension of mental thriving could present as an area of development.

A portion of the Likert scale questions were formulated to address burnout throughout the competitive season. High levels of motivation, excitement, and readiness were evident among athletes during the pre-season period. This supports the notion that they may be experiencing more vitality in the pre-season period. However, trends of adverse sentiments towards workload management, enjoyment of training, competence, and confidence seemed to trend upwards as the season progressed. The decrease in agreement corresponds with the later portion of a competitive season, with more reports of fatigue, disengagement, difficulty focusing, and more physical stress found in our data. For example, during the in-season and postseason phases, the agreement with statements such as “looking forward to rest and recovery” and “setting new goals” showed a slight increase within participants. Feelings of relief and renewal seem to be common experiences among athletes when stressors are relieved. This suggests that the in-season phase may be the most stressful factor for student-athletes, leading to mental and physical exhaustion (Amorose et al 2009). Prioritizing the recovery and mental well-being during all phases of the competitive season should be of utmost importance. All of these stress factors together, can lead to feelings of burnout, which in turn has a very negative effect on the mental state of an athlete (Amorose et al 2009).

In conclusion, the results of the survey amplify the importance of promoting the mental health resources available. The awareness and accessibility of these resources, as well as support resources, should be easily found and used by student-athletes. Addressing the barriers that

certain participants highlighted, focusing resource funds on the specific needs of athletes, and fostering a more open university culture on mental health awareness are essential steps in the attempt to enhance the overall well-being and performance of student-athletes.

Limitations

This study contains a few limitations. Firstly, our study was limited by time; implementing a longitudinal study design would have been beneficial as it would have allowed us to gain more data and potentially reduce recall biases. Additionally, a longitudinal design could potentially offer further insight into when thriving changes throughout a competitive season. Secondly, our study mainly received responses from the women's softball team and third year student-athletes. Therefore, this data may offer valuable insight into the thriving of softball players and third year student-athletes but the results and recommendations may not translate well in different sporting contexts. Thirdly, our study only examined three aspects related to thriving. There are several additional factors that can impact an individual's perception of thriving, therefore, future studies should examine intra and interpersonal relationships, and other factors related to thriving, to ensure a wholistic perspective is taken. Lastly, we received an adequate number of responses, but response rate to optional questions related to perceived barriers and a general lack of clarity as to what barriers varsity student-athletes face, make it challenging for us to target and reduce potential barriers.

Areas for Further Research

Our study excluded non-rostered or injury-reserve varsity athletes. The experiences of thriving for non-rostered or injury-reserve athletes could be a potential area of further research to

examine whether thriving experiences are similar or different compared to rostered, varsity athletes. Moreover, further research could involve comparisons between student-athletes in different years of study to deduce if year of study plays a role in student-athlete thriving. Additionally, thriving is such a broad topic and very individualized, so future studies should implement a longitudinal design to allow for within subject comparison.

Recommendations

Based on our findings, we have four specific recommendations that are aimed to enhance athletes' academic thriving, performance thriving, and mental thriving. The recommendations range from immediately actionable to long-term, aspirational changes, all rooted in our collected data and analysis.

Immediate Actions

T-Bird App

Our first recommendation covers a three-fold amendment to the T-Bird app. The current T-Bird app consists of a website where athletes upload their health documents, grades and sports related certifications (concussion awareness and anti-doping), however, this is not the only platform where athletes access information. Currently, athletes have three main platforms, Canvas, Team-Builder/Slack and the T-bird App where they receive and upload information. Firstly, we propose that UBC Athletics merges these platforms into one, effectively making a centralized site where athletes can find information on all the resources they may need, and any onboarding forms and courses they may need to complete. In regards to academic thriving, alterations to the T-Bird app could include a calendar where athletes can see important dates on the academic calendar, as well as, potential team study sessions including Varsity Team

Academic Coaches (VTACs) and team specific Thunderstudy times. These Thunderstudy times could provide teams the opportunity to bond and get school work done together. Additionally, the new T-Bird app could include an academic resources module, similar to the one on the Canvas page, which includes links and resources to access faculty specific academic advising services. A similar approach could be taken with regards to mental and physical thriving resources.

Enhancements to the T-Bird app could integrate direct links to UBC's mental health resources. This update should provide an easy-to-navigate interface where athletes can find comprehensive information about available mental health services, including Mental Performance Appointments and Wellness Advising. A feature for immediate redirection to UBC's mental health resource within the app would streamline the process of seeking help. With regards to physical thriving, the amended T-Bird app could include nutritional resources, recipes and recovery tips designed by nutritionists and S&C coaches.

The goal of this recommendation is to create a succinct, centralized “hub” for student-athletes to find and access a variety of targeted resources. This may also increase understanding and awareness of available resources but further data collection on participation levels is required to see if the current resources make an impactful difference on thriving.

Integration of Rate of Perceived Exertion and Thriving Check-in

Naclerio et al. (2015) defined rate of perceived exertion (RPE) is an important tool teams and individuals can use to gauge physical exertion or the difficulty of an exercise or a workout. We propose that each team integrates a survey at the end of each practice or training session. An updated T-Bird App could include a check-in feature with a few questions. Firstly, one question regarding RPE of the respective session. Secondly, Likert type questions for mental thriving,

physical thriving and for academic thriving. To close, this survey could include an open-ended comment box where athletes can address other concerns related to the three dimensions. The goal of this recommendation is three-fold. Firstly, the collected data may allow team coaches and S&C coaches to better plan and tailor training sessions for student-athletes. Secondly, the open-ended comment box may allow concerns and questions to be addressed anonymously. This may make athletes who are experiencing challenges with coaching staff or other team members address their concerns without feeling at risk of punishment or repercussions from their coach or team. Thirdly, this data from the thriving check-ins may help the athletics department to better allocate mental performance resources and other related resources. One caveat for the success of this recommendation is the support and education of coaching staff to help facilitate participation and to be held responsible for integrating the data to form an evidence-informed practice plan.

Pilot Walk-in Athletic Therapy Sessions

This long-term recommendation requires significant resources, however, we believe that it would be an effective way of addressing physical thriving barriers and concerns. As demonstrated in our results and discussion section, 66.6% of participants have used an AT at some point, however, 38.1% of participants have occasionally experienced barriers when accessing similar resources. This is a significant percentage of individuals experiencing barriers to resources. As mentioned in our limitations section, further research is required to deduce what specific barriers student-athletes may be experiencing, nevertheless, we believe that piloting walk-in appointments with ATs could be used to address lingering concerns or injuries that arise out of practice times. Moreover, flexible appointments may allow busy student athletes to find the opportunity to address injury concerns We recognize that this would be a significant draw on resources, however, we believe that it may be an effective way to increase appointment

availability without directly hiring more ATs, physiotherapists or doctors as part of the integrated support team.

Long-Term Recommendations

Longitudinal Research and Development on Athlete Thriving

To further understand and support athlete thriving, UBC Athletics could partner with academic departments to conduct ongoing research into the effects of academic pressures, physical training, and mental health on student athlete performance. This research would aim to develop evidence-based interventions tailored to the unique needs of varsity athletes, considering factors such as seasonality, sport-specific demands, and academic workload. Funding could be sought for interdisciplinary projects that explore innovative approaches to athlete support, including technology-based solutions and community-based wellness initiatives.

Conclusion

In conclusion, this mixed-methods study briefly examined the thriving of UBC student-athletes related to three overarching concepts: academic thriving, mental thriving and performance thriving. Findings showed that UBC student-athlete participants experience potential barriers to accessing resources which may decrease wholistic thriving. While our study included several limitations, we believe that four suggestions can be made to the UBC Athletics department. These suggestions cover improvements and centralizations of resources on the T-Bird App, integrating RPE and thriving check-ins to training sessions, walk-in athletic therapy appointments and longitudinal research.

Moving forward, it is crucial for UBC and UBC Athletics to implement and engage with these recommendations and consider integrating them into existing structures. Key focuses should be on the accessibility and centralization of available resources for student-athletes. By prioritizing these recommendations, UBC Athletics can build upon their wellness approach that fosters thriving for their athletes, both on and off the field.

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Appendix

Appendix A- Tables

Table A1 - Participant Demographics

	Frequency	Percent
<i>Sport</i>		
Baseball	5	11.91
Men's Rowing	1	2.38
Men's Rugby	3	7.14
Men's Swimming	1	2.38
Softball	15	35.71
Women's Basketball	1	2.38
Women's Hockey	2	4.76
Women's Rowing	3	7.14
Women's Rugby	6	14.29
Women's Rugby Sevens	1	2.38
Women's Track and Field	4	9.52
<i>Academic Year</i>		
First	7	16.67
Second	14	33.33
Third	17	40.48
Fourth	3	7.14
Fifth	1	2.38
<i>Competitive Season</i>		
Both Terms	23	54.76
Term 2	19	45.24

Table A2 - Academic Resources

	Frequency	Percent
<i>Frequency of Access</i>		
More than twice a week	1	2.38
Twice a week	2	4.76
Twice a month	3	7.14
Once a month	7	16.67
Once a year	6	14.29
Never	23	54.76
<i>Frequency of Barriers</i>		
Most of the time	1	2.38
Occasionally	8	19.05
Never	33	78.57

Table A3 - Academic Thriving

	Mean	Standard Deviation	Skewness	Kurtosis
<i>Pre-season</i>				
Item 1	2.9	0.9	0.1	-1.1
Item 2	3.6	0.8	-0.7	0.1
Item 3	3.7	0.7	-0.6	0.4
Item 4	3.7	1.0	-0.5	-0.8
Item 5	2.7	0.9	0.6	0.1
Item 6	2.8	0.9	0.4	-0.5
<i>In-season</i>				
Item 1	2.4	1.0	0.7	-0.1
Item 2	3.1	1.1	-0.1	-1.4
Item 3	3.1	0.9	0.2	-1.2
Item 4	3.8	1.0	-1.2	1.0
Item 5	3.1	1.1	-0.1	-1.0
Item 6	3.2	1.1	0	-1.1

Table A4 - Physical Health and Wellness Resources

	Frequency	Percent
<i>Frequency of Access</i>		
More than twice a week	5	11.91
Twice a week	10	23.81
Once a week	4	9.52
Twice a month	5	11.91
Once a month	9	21.43
Once a year	4	9.52
Never	3	7.14
<i>Frequency of Barriers</i>		
Most of the time	4	9.52
Occasionally	16	38.10
Never	20	47.62

Table A5 - Physical Thriving

	Mean	Standard Deviation	Skewness	Kurtosis
<i>Pre-season</i>				
Item 7	3.9	0.8	-0.5	0.1
Item 8	2.8	1.1	0.2	-1.1
Item 9	3.5	0.9	-0.8	0
<i>In-season</i>				
Item 7	3.2	1.1	-0.1	-1.2
Item 8	2.6	1.1	0.7	-0.2
Item 9	2.9	1.0	-0.5	-0.8

Table A6 - Mental Wellness Resources

	Frequency	Percent
<i>Frequency of Access</i>		
<i>Pre-season</i>		
Twice a month	3	7.14
Once a month	3	7.14
Once a year	6	14.29
Never	28	66.67
<i>In-season</i>		
Once a week	1	2.38
Twice a month	2	4.76
Once a month	5	11.91
Once a year	3	7.14
Never	28	66.67
<i>Frequency of Barriers</i>		
Most of the time	2	4.76
Occasionally	6	14.29
Never	31	73.81

Table A7 - General Vitality

	Mean	Standard Deviation	Skewness	Kurtosis
<i>Pre-season</i>				
Item 10	4.2	0.8	-1.7	5.5
Item 11	4.2	0.7	-0.9	1.2
Item 12	4.0	0.7	-0.9	1.7
<i>Beginning In-season</i>				
Item 13	3.9	0.7	-2.4	10.2
Item 14	3.9	0.8	-0.7	0.8
Item 15	3.7	0.9	-0.4	-0.2
<i>Middle In-season</i>				
Item 16*	3.6	1.0	-0.3	-0.8
Item 17*	2.9	1.1	0.1	-1.1
Item 18*	3.5	0.9	-0.3	-0.7
<i>End In-season</i>				
Item 19	3.8	0.9	-0.6	-0.4
Item 20	3.5	0.9	-0.3	-0.6
Item 21	3.9	0.9	-0.6	-0.3
<i>Post-season</i>				
Item 22	3.4	1.0	-0.2	-0.6
Item 23	4.0	0.8	-1.0	1.3
Item 24	3.8	0.9	-0.6	0

*Items were reversed coded

Appendix B - Figures

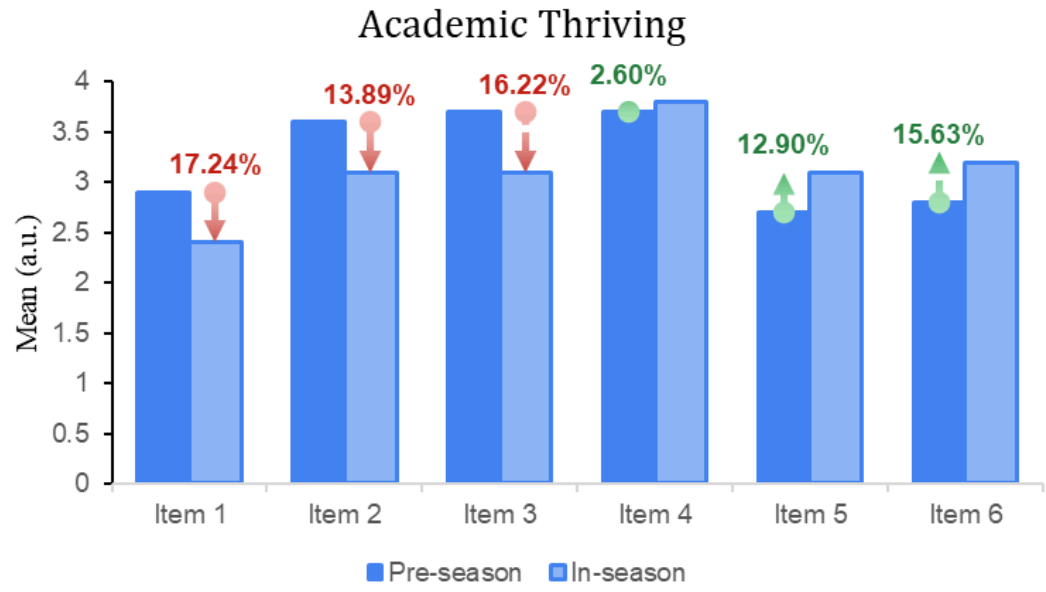


Figure B1- Academic thriving during pre-season and in-season (a.u. Indicates arbitrary units)

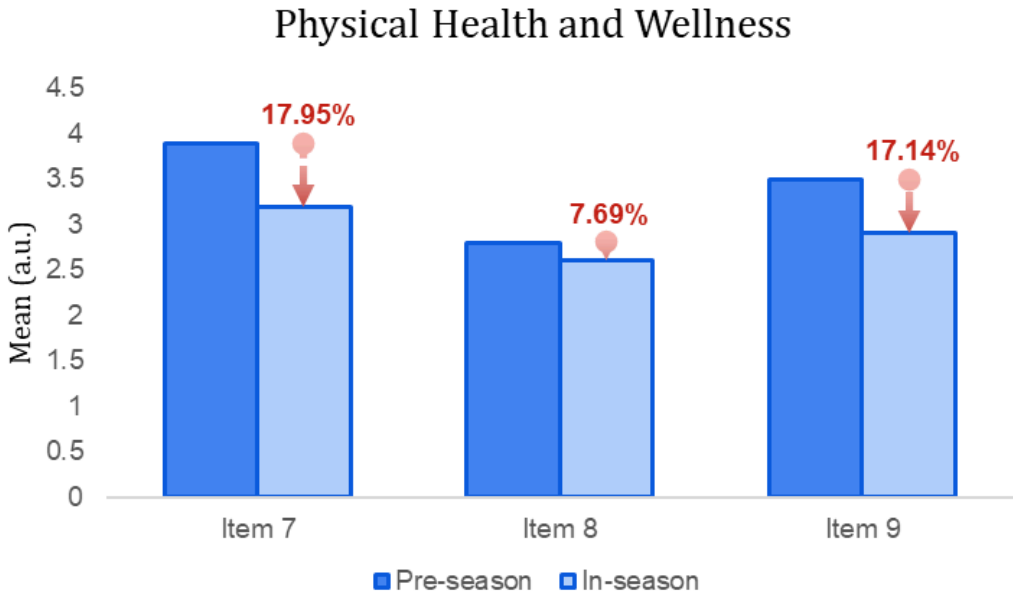


Figure B2- Physical health and wellness during pre-season and in-season (a.u. Indicates arbitrary units)

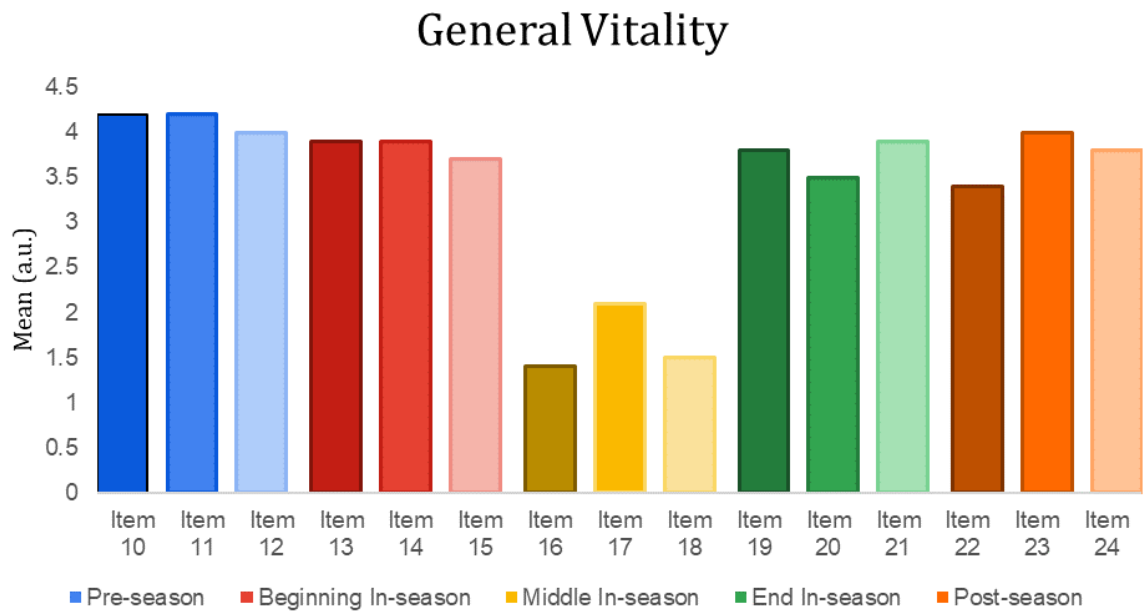


Figure B3- General vitality during pre-season, beginning, middle, and end of in-season, and postseason (a.u. Indicates arbitrary units)

Appendix C: Consent Form

CLASS PROJECT: Health Promotion and Physical Activity (KIN 464)

Participant Consent Form: Thriving or Surviving- A Look at UBC Varsity Athletes
Multidimensional Thriving over a Competitive Season. [Group 17]

Project ID: H17-03560-A017

Principal Investigator: Dr. Andrea Bundon (Assistant Professor, School of Kinesiology, Faculty of Education)

The purpose of the Class Project: To gather knowledge and expertise from community members, specifically, UBC varsity student-athletes, on the fluctuation of thriving, learning and vitality throughout a competitive season.

Study Procedures: With your permission, we are asking you to participate in a survey. You may only complete each survey once. With the information gathered, students will critically examine how different individuals understand or engage in health promoting activities or health promotion initiatives.

Project outcomes: The information gathered will be part of a written report for the class project. The written report will be shared with campus partners involved with the project. Summaries of findings will also be posted on the following websites. UBC SEEDS Program Library: <https://sustain.ubc.ca/courses-degrees/alternative-credit-options/seeds-sustainability-program/seeds-sustainability-library> No personal information/information that could identify participants will be included in these reports or shared with campus partners.

Potential benefits of class project: There are no explicit benefits to you by taking part in this class project. However, the survey will provide you with the opportunity to voice your opinion on your experiences with health promoting activities or initiatives in a broad sense and will provide the students with an opportunity to learn from your experiences. Confidentiality: Maintaining the confidentiality of the participants involved in the research is paramount, and no names of participants will be linked to the data collected. At the completion of the course, all data (i.e. notes) and signed consent forms will be stored on a secure electronic drive by Dr. Bundon. All data and consent forms will be destroyed 1 year after completion of the course.

Risks: The risks associated with participating in this research are minimal. There are no known physical, economic, or social risks associated with participation in this study. You should know that your participation is completely voluntary and you are free to withdraw from the study and there will not be negative impacts related to your withdrawal. If you withdraw from the study, all of the information you have shared up until that point will be destroyed.

Contact for information about the study: If you have any questions about this class project, you can contact Andrea Bundon by email at andrea.bundon@ubc.ca

Research ethics complaints: If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or e-mail RSIL@ors.ubc.ca . or call toll free 1-877-822-8598.

Consent: Your participation in this study is entirely voluntary and you may refuse to participate or withdraw from the study at any time.

By proceeding with this survey, I am confirming I have read the above information and agree to participate in this research project.