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EXAMINING THE FACTORS INFLUENCING THE DROP-OUT PROBABILITY OF ATHLETES IN VIETNAM

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ABSTRACT

The sports sector plays an increasingly important role in a country's economy, providing an impressive source of income for many athletes. However, that is just the surface as not all athletes are well-treated and have high incomes, various problems while studying and working have led to the fact that many athletes quit their careers, especially many young athletes. This study was conducted with the aim of exploring the factors influencing the drop-out probability of athletes in Vietnam. The author uses quantitative research methods with snowball sampling method. Responded data from 159 athletes in Vietnam were processed through SPSS 27 software. Three of the six research hypotheses were supported. Specifically, the results showed that frequency of injuries, educational demands and household income had no impact on the probability of leaving the profession. An increase in investment cost was found to lead to a higher probability of dropping out the profession. However, an increase in burnout and career development would make athletes less likely to quit the profession. These results will be the basis for the authors to propose important management and policy implications to limit the drop-out probability of athletes in Vietnam.

KEYWORDS: - Athletes, burnout syndrome, career development, drop out, investment cost.

1.INTRODUCTION

Sport offers a benchmark for understanding people's lives, jobs, and thought processes and may also be used as a gauge of a country's level of civilization advancement. Physical leisure and sports are part of humanity's artistic heritage. Since these forms of human expression are just as essential

as music, poetry, and painting, they have become an integral component of all civilizations, racial groupings, and historical eras. Regarding the economic aspects, professional sports provide customers with entertainment services, and since watching these events gives viewers psychological joy, they are willing to pay for them. In addition, costs increase in proportion to the level of quality of services rendered (Razvan et al., 2020). Because of the significance of sport in our modern world and the benefits gained from participating in sports, there seems to have been a surge in the number of athletes worldwide over the past several decades. This statement is illustrated partly in the analysis of 161-km ultra marathons in North America, when Hoffman et al. (2010) observed that over the previous three decades, the yearly number of finishers in 161-kilometer ultra marathons has increased exponentially (Hoffman & Fogard, 2012). In the category of football, between the 2013–14 and 2019–20 seasons, teams paid out relatively constant sums to sign players; however, due to the pandemic, these prices dropped substantially for the 2020–21 season. The value recorded during the current season is the second highest of the last ten years, and a resumption was noted in the subsequent season. We also see a steady rise in the proportion of money pledged conditionally by clubs throughout the course of time. From this point forward, the latter represent over 15% of the overall fees (Poli et al., 2023). A rise in transfer costs and salaries paid to footballers as a whole is the reason why the community of athletes participating in this sport has expanded every single year.

However, elite sports performance has evolved over time, requiring ever-more-demanding training regimens, early specialization, meticulous preparation, and the capacity to handle challenging events, which in turn physically and mentally places enormous pressure on athletes (Enoksen, 2011). Due to these high standards, numerous sports have witnessed a high probability of dropout in the number of athletes. About 70 percent of young players drop out of organized sports by the age of 13 due to the so-called "professionalization of youth sports" (Borelli, 2024). Juvenile athletes may have overuse injuries, overtraining, and burnout as a result of the high training volumes and pressure to specialize in a particular activity that are commonly attributed to the professionalization of juvenile sports (Brenner & Watson, 2024). To be more specific, out of the 24,854 athletes between the ages of 13 and 19 who participated in track and field in 2016, 43% did not return the following year. The same churn rate persisted from 2017 to 2018, with the 16 and 17-year-old age groups seeing the greatest decline, with a startling 30% of them failing to return annually (Bee, 2021).

The same situation is happening in Vietnam, where there is a drastic decline in the number of athletes. At Sea Games 31, which took place in 2022, the Vietnamese sports delegation attended with the largest number of athletes, up to 965 members, including 535 men and 171 women. With the excellent performance of the athletes, Vietnam ranked first in the entire group with 205 gold medals (Dang, 2023). However, these impressive statistics did not last long when, at the Sea Games 32, two years later from Sea Games 31, the number of athletes plummeted to only more than 700 for a total of 136 gold medals (Communist Party of Vietnam). This downward slope in the number of Vietnamese participants in Sea Games within two years has shown that there are some specific reasons affecting this drop-out probability rate. We have identified some center elements that lead to the problem: the frequency of injuries, educational demands, investment cost per household per year, salary for athletes per year, bonus for athletes per year, income of households per year,

number of appearances per year, and burnout syndrome. Unlike many other countries where athletes have numerous chances and opportunities to compete in high-paid competitions and gain huge respect in their home countries for their contributions, the only life-changing chance for Vietnamese athletes is to rely on major tournaments, namely the Sea Games and Asiad, to get prize money and fame to get advertising and sponsorship (Dan, 2018). Only by doing so can they improve their living quality and look forward to the future. The main objective of the study is to investigate the factors influencing the drop-out probability of athletes in Vietnam. In addition to the introduction and conclusion part, the authors conduct a theoretical framework based on an overview of research related to this field, from which research hypotheses are formed. Then, the authors proceed to describe the research method. This study was conducted based on quantitative research methods through a survey of 160 elite athletes in Vietnam. Since, the findings of this study will be useful in determining potential factors for dropout and in developing targeted initiatives to address these reasons.

2. THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

2.1 Drop-out Probability of Athletes

Definitional issues are one of the primary obstacles to analyzing sport participation patterns; in particular, the term "dropout" lacks a clear meaning, leading to a variety of operational definitions and terminology used in different research (Moulds et al., 2022). For instance, Robinson & Carron (1982) divided athletes into three categories: survivors—those who were on the team but did not compete in games or tournaments; dropouts—those who stopped playing; and starters. According to Klint & Weiss (1986), there are three types of dropouts: those who left their sport voluntarily to try other sports or activities; those who appreciated their sport but felt that their current situation was unfavorable; and those who were forced to leave their sport due to circumstances such as cost or injury. However, this study will integrate and simplify both researchers' meanings for the phrase. Dropout in athletics refers to an athlete discontinuing participation in their sport or activity before achieving their goals or completing their competitive career, occurring at various stages of their involvement, from youth sports to professional levels. The dropout probability of an athlete can be seen as the probability of an athlete ceasing participation in their sport or activity over a specific period, crucial for coaches, sports organizations, and researchers to understand and address factors contributing to athlete retention or attrition.

A study conducted by McCarthy & Jones (2015) demonstrates the correlation between dropout rates and psychological problems experienced by athletes, such as stress, fatigue, and a lack of intrinsic desire. Athletes may quit their activities due to unfulfilled expectations, pressure from parents and coaches, and a loss of enjoyment. Dropout rates are also a reflection of larger cultural perceptions about sports. Athletes' decisions to stay or leave are influenced by social values and cultural norms around achievement, competitiveness, and the significance of sports in personal development, as discussed in the research (McCarthy & Jones, 2015). In another thesis of David M. Stambulova published in 2011, dropout probabilities are indicative of several underlying problems in the environment, such as how well-supported athletes are during transitions, how much pressure they face, and how satisfied they are with sports in general (Stambulova, 2011). By understanding the complex reasons behind why athletes drop out, sports organizations can implement strategies to improve athlete retention and foster a more positive and sustainable sporting experience.

2.2 Factors Influencing The Drop-out Probability of Athletes

2.2.1 Frequency of injuries

In many previous studies, it has been determined that injury and health problems are a cause of the career performance of many athletes around the world. Klint & Weiss (1986) discussed various categories of competitive sports dropouts, such as reluctant dropouts who are compelled to leave competitive sports due to severe illness/injury or an excessively demanding athletic schedule. Other previous study by Bussmann (1995) found out that the premature withdrawal of young talented athletes from sports is frequently associated with a decline in athletic performance and the occurrence of significant injuries as examined by these researchers in training and performance aspects. Injuries were also reported to rank as the second most commonly cited physical limitation, especially in the high-intensity sport. Johns et al. (1990) discovered that 40% of female competitive gymnasts left the sport due to injuries. In all five studies focusing on gymnastics, injuries were consistently linked to dropout, with most participants competing at a high level. These studies lacked details on the nature and seriousness of injuries and how they contributed to dropout. In contrast, Koukouris (2005) noted that elite gymnasts who needed medical treatment for injuries, such as surgery, lost interest in the sport due to perceived lack of support from coaches and administrators. Given that sports-related injuries are a major concern for young athletes, further investigation into the connection between injuries and disengagement from sports is essential (Keats et al., 2012; King et al., 1998). Accordingly, the study proposes the following research hypothesis:

H1: Frequency of injuries has an influence on the drop-out probability of athletes in Vietnam.

2.2.2 Educational demands

The clash between academic demands, job responsibilities, and the pursuit of an athletic career can lead to conflicts in managing time for both sports and schoolwork among many athletes. Numerous studies by Kreim & Mayer (1985), Enoksen (2002) also highlighted the issue of insufficient time and poor time management as common reasons for athletes dropping out of competitive sports. Other certain studies suggested that challenges within the family environment, lack of performance improvements due to negative experiences, or the struggle to balance a sports career with academic demands are common reasons for young athletes to disengage from sports early on (Hosek, 1985; Slepickova and Kavalir, 1997). According to Baur (1998), athletes often struggle with the decision of balancing academic commitments and athletic aspirations. Since vocational training and educational attainment play a crucial role in preparing for life beyond sports, these social risks are connected to uncertainties about the future post-elite sports career. Besides the high occurrence of injuries, performance plateaus, the academic demands in the case of athletes and diminishing motivation were significant factors leading to the early dropout of numerous promising track and field athletes (Enoksen & Eystein, 2011). Baron-Thiene & Alfermann (2015) focused on adolescent athletes, who are considered a high-risk age group for dropping out of sports for various reasons. Firstly, the academic and athletic demands placed on them intensify during this period, leading some to view it as a choice between one or the other, potentially favoring academic pursuits. Secondly, the biological maturation of these athletes may influence performance improvements and setbacks, possibly leading to perceived or measurable performance declines towards the end of

puberty when biological development no longer contributes to performance gains. Accordingly, the study proposes the following research hypothesis:

H2: Educational demands have an influence on the drop-out probability of athletes in Vietnam.

2.2.3 Investment cost

In the research of Klint & Weiss (1986), these authors already mentioned that the non-participants view the drawbacks of engaging in competitive sports as outweighing the advantages of participation, which may lead to the drop-out of some athletes. Given the significant time commitments, intense effort, and competitive stress prevalent in modern elite sports, it is not uncommon for gifted athletes to face conflicting priorities between sports and other interests, potentially impacting their motivation. The drawbacks of engaging in sports frequently outweigh the advantages, leading to these challenges (Gould & Petlichkoff, 1988). Witt & Dangi (2018) has concluded numerous sports demand a significant financial commitment for continual involvement. The expenses involved may deter young athletes from underprivileged areas from initially joining or cause them to stop participating if they cannot afford the costs. Expenses such as year-round training, equipment, coaching fees, camps, tournaments, and travel expenses can strain a family's finances and play a pivotal role in determining whether certain athletes can begin or sustain their participation. Accordingly, the study proposes the following research hypothesis:

H3: Investment cost has an influence on the drop-out probability of athletes in Vietnam.

2.2.4 Household income

According to Vella et al. (2013), demographic factors that have been demonstrated to correlate with community sports involvement (such as cultural heritage, household earnings, parental education) may also serve as significant indicators and were encompassed in the analysis. On a personal and familial level, Vella et al. (2014) also found that athletes living in a household with a lower standardized income have a higher tendency to quit sports in the future. Parental support varied based on family income, with higher-income parents being notably more inclined to offer additional opportunities and support (Nicole et al., 2020). Nonetheless, when analyzing the parenting experiences of girls and boys separately, distinct gender variations in parental involvement emerged among current participants and dropouts. In the case of boys, there was little difference in parental support between those who continued playing and those who discontinued. The inverse result belongs to the issue of girls. An examination of children and adolescents' involvement in sports revealed that the educational background of mothers and family income were influential factors impacting their participation or drop out (Ferreira et al., 2006). Accordingly, the study proposes the following research hypothesis:

H4: Household income has an influence on the drop-out probability of athletes in Vietnam.

2.2.5 Burnout syndrome

In current times, burnout syndrome is recognized as a significant issue among athletes, leading to a high dropout rate. Burnout syndrome refers to the repetitive and intense use of specific body parts in certain sports which has been linked to muscle overuse or muscle ruptures (Witt & Dangi, 2018).

West & Strand (2016) noted that many young athletes are asked or pressured through families and coaches to undertake more and more practice - a factor that can lead to burnout and eventual dropout. Other studies suggest that the prevalence of burnout in athletes is between 1 to 5 percent (Gustafsson et al., 2007). It is believed that burnout incidence rises with the intensification of training and pressure in elite sports. The demanding nature of elite sports, where competition runs almost continuously throughout the year, blurring the line between seasons, leaves little room for rest and recovery. Burnout syndrome can result in various effects on a person's emotions, thoughts, motivation, and actions, potentially leading to persistent emotional and physical fatigue (Goodger et al., 2007; Gustafsson et al., 2008). Individuals experiencing burnout often feel depressed, have a diminished sense of achievement, feelings of powerlessness, and a lack of drive. In certain instances, this could result in withdrawal from the sports arena. Accordingly, the study proposes the following research hypothesis:

H5: Burnout syndrome has an influence on the drop-out probability of athletes in Vietnam.

2.2.6 Career development

To achieve success as an athlete at the elite level, sustained high performance over one's career is crucial. This journey typically begins in early stages and requires continuous effort to reach this pinnacle. It is a challenging process marked by moments of pressure that demand unwavering motivation from athletes. To persevere through these challenges and remain focused on their athletic career development, athletes need to consider both internal factors like their own motivation and external factors such as support systems like family, school, and the sports environment and the low development opportunities can lead to the athlete's decision to drop out (Barker et al., 2014). Adie et al. (2010) discovered that soccer players who left the club's talent development program experienced a decline in task-focused goals, while those who stayed saw significant improvements in this aspect over two seasons. Kristiansen et al. (2017) study also suggests that if young athletes do not perceive a developmental path and do not reach a certain level of performance appropriate to their age, they will cross the threshold of commitment to pursuing a career at a higher level, and for those athletes who decide to drop out, they will have no longer maintained their commitment throughout the developmental pathway. Accordingly, the study proposes the following research hypothesis:

H6: Career development has an influence on the drop-out probability of athletes in Vietnam.

3. METHODOLOGY

3.1 Measures

The quantitative research method was used to conduct the research. To measure the variables within the research model, the authors conducted a survey and collected answers from various groups who are currently student athletes, professional athletes and dropout athletes in Vietnam. The frequency of injuries (INJ) was measured by the number of injuries, both minor and major, within the most recent year of competition at the time of the study. Educational demands (EDU) was measured by the yes and no answer, in which “yes” belongs to those who have been and are participating in parallel study and competition. “Yes” answer is coded 1 and “No” is 0. The investment cost (INV) and household income (INC) were in US dollars, in which investment cost is the total amount of

money spent to invest for the career up to now and the household income is the total income of the athlete's family members in the most recent year. Burnout syndrome (BUR) is measured by the extent to which an athlete felt a medical problem during the most recent year of competition that was examined by a medical team. Accordingly, there are 4 levels including no burnout - 0, mild - 1, moderate - 2 and severe - 3. Career development (CAR) is measured by the number of times an athlete plays and appears in tournaments in the most recent year. For the active and drop out athletes (DROP), the authors divided them into two categories: 0 - active athletes and 1 – drop out athletes.

Based on the above hypotheses and the measures, the authors proposes the following binary logistic regression equation:

$$Ln[P/(1-P)] = \beta_0 + \beta_1*INJ + \beta_2*EDU + \beta_3*INV + \beta_4*INC + \beta_5*BUR + \beta_6*CAR + e$$

3.2 Sample population and data collection

Athletes are a relatively difficult target group to reach in Vietnam, therefore, the study was conducted using snowball sampling method. The study collected valid responses from 159 athletes in Hanoi and Ho Chi Minh city of Vietnam in some different sports. These two cities are also home to many athletes studying, training and competing across the countryFollowing the guidance provided by Green (1991), a minimum sample size of 50 + 8m (where m represents the quantity of independent variables or predictors in the regression analysis) was observed to meet regulatory standards. To ensure minimum sample size, a total of 159 valid responses from athletes in Vietnam were collected through the official survey.

In terms of demographic characteristics, the proportion of male and female athletes is quite even at 53.5% and 46.5% respectively. By age, most athletes are between 20 and 30 years old, with the highest number of athletes between 20 and 30 years old at 73 people, equivalent to 45.9%. The number of athletes over the age of 30 was slightly less at 56 people, equivalent to 35.2%. The number of athletes who responded were all single (138 people) and the remaining few were married (21 people), mostly belonging to the age group over 30. The percentages of single and married were 86.8% and 13.2% respectively.

Table 1: Demographic characteristics of the respondents

Characteristics		***Frequency***	***Proportion (%)***
Gender	Male	85	53.5
	Female	74	46.5
Age	Smaller than 20	30	18.9
	20 to 30	73	45.9
	More than 30	56	35.2
Marital status	Single	138	86.8
	Married	21	13.2

Source: Authors' analysis

3.3 Data analysis

Utilizing SPSS 27 software, the author performed data analysis based on the collected research data. First, the author will clean the data and check the normal distribution of quantitative variables and remove outliers through descriptive statistics. Following this, Pearson correlation analysis was conducted to investigate the connections between independent and dependent variables and to detect any multicollinearity in the dataset. Independent variables demonstrating correlation with the dependent variable were chosen for incorporation in binary logistic regression analysis. The outcomes of the regression analysis will establish the model's significance and the levels of impact of the factors, culminating in conclusions regarding the research hypotheses. These conclusions will serve as the foundation for offering pertinent management and policy suggestions.

4. FINDINGS AND DISCUSSION

4.1 Descriptive statistics and correlation analysis

Based on the research data obtained, the authors analyzed the statistical characteristics of a number of quantitative variables including frequency of injuries, investment cost, household income and career development (numbers of appearances). The injury situation among athletes during the year was not too serious with an average of 2.01 times/year. Among them, there are also some athletes who are not injured, but there are athletes who are injured up to 10 times/year. The amount of money invested in athletes is also quite large, it is estimated that to become an athlete, they have to invest nearly 3000 USD, in which there are athletes who have invested up to about 10000 USD for their career. Although the investment level is quite high, the household income is not high and shows a large difference, which also shows the very diverse family circumstances of athletes in Vietnam, meaning that both poor families, middle-class families and rich families participate to become athletes. The average household income in the most recent year of respondents was estimated at nearly $5000/household/year. In addition, career development prospects through the number of times appearance or participating in competitions are also not high, averaging over 4 times/year.

Table 2: Descriptive statistics of the quantitative variables

	Minimum	**Maximum**	**Sum**	**Mean**	**Std. Deviation**
Frequency of injuries (INJ)	0	10	319	2.01	1.324
Investment cost (INV)	1000	10000	421600	2651.57	1345.984
Household income (INC)	280	80000	769920	4842.26	8030.091
Career development (CAR)	0	30	656	4.13	3.392

Source: Authors' analysis

After cleaning the data and analyzing descriptive statistics, the authors conducted Pearson correlation analysis for the variables in the research model. The purpose of Pearson correlation analysis is not only to help the author identify which independent variables are correlated with the

dependent variable to continue to include in the regression analysis in the following section, but also to help determine whether multicollinearity occurs when high correlation occurs between independent variables.

Table 3: Pearson correlation analysis results

		DROP	INJ	EDU	INV	INC	BUR	CAR
DROP	r	1	-0.047	0.005	0.461**	-0.118	-0.444**	-0.178*
	sig. (2-tailed)		0.553	0.955	0.000	0.138	0.000	0.025
INJ	r	-0.047	1	-0.009	0.010	0.191*	0.143	-0.042
	sig. (2-tailed)	0.553		0.909	0.900	0.016	0.073	0.595
EDU	r	0.005	-0.009	1	0.031	0.073	-0.085	0.069
	sig. (2-tailed)	0.955	0.909		0.694	0.362	0.287	0.385
INV	r	0.461**	0.010	0.031	1	0.302**	-0.156*	-0.093
	sig. (2-tailed)	0.000	0.900	0.694		0.000	0.049	0.243
INC	r	-0.118	0.191*	0.073	0.302**	1	0.020	0.172*
	sig. (2-tailed)	0.138	0.016	0.362	0.000		0.799	0.030
BUR	r	-0.444**	0.143	-0.085	-0.156*	0.020	1	0.138
	sig. (2-tailed)	0.000	0.073	0.287	0.049	0.799		0.082
CAR	r	-0.178*	-0.042	0.069	-0.093	0.172*	0.138	1
	sig. (2-tailed)	0.025	0.595	0.385	0.243	0.030	0.082	

Source: Authors' analysis

The results of the correlation analysis show that there is a statistical significance in the correlation between the three independent variables INV, BUR and CAR with the dependent variable DROP due to the sig. (2-tailed) of 0.000; 0.000 and 0.025 respectively. The r coefficient (Pearson correlation) of the three pairs is 0.461; -0.444 and -0.178 respectively. In addition, the correlation coefficient between pairs of independent variables is also very low or statistically insignificant. This shows that the data does not violate multicollinearity.

4.2 Regression analysis and hypothesis conclusion

In this section, the authors will conduct binary logistic regression analysis to draw conclusions for the study. First, the Omnibus Tests of Model Coefficients table shows that the Chi-square coefficient is 79.083, along with that, the sig. value in this Chi-square test is $0.000 < 0.05$. That shows that the regression model exists or in other words, the regression model is appropriate.

Table 4: Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	79.083	3	0.000
	Block	79.083	3	0.000
	Model	79.083	3	0.000

Source: Authors' analysis

Next, to determine the level of significance in predicting the probability of athletes quitting, the authors relied on the Model summary table with the Nagelkerke R Square coefficient. The results show that this coefficient is 0.587, showing that 58.7% of the drop-out probability of athletes in Vietnam is predicted by the independent variables within the model, the remaining 41.3% belongs to factors outside the model and random errors. In addition, based on the classification tables, the model's prediction accuracy for this probability reached 84.3%. This shows a fairly good result when the independent factors can predict the change in the dependent variable almost accurately.

Table 5: Model summary and percentage correct

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square	Percentage Correct of Prediction
1	95.791a	0.392	0.587	84.3
a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.				

Source: Authors' analysis

Table 6 shows the results of Wald test, sig. and Exp(B) of each independent variable. The sig. value in Wald test of 3 independent variables INV, BUR, CAR are respectively 0.000; 0.000 and 0.018 all < 0.05, therefore, these 3 factors all have an influence on athletes' drop-out of their careers. Thus, this study accepts hypotheses H3, H5 and H6 that investment cost, burnout syndrome and career development have influenced the drop-out probability of athletes in Vietnam. On the contrary, the frequency of injuries, educational demands and household income show no impact on the drop-out probability of athletes in Vietnam. Thus, the authors reject these hypotheses H1, H2 and H4.

Table 6: Summary of binary logistic regression analysis

Independent variables	B	S.E.	Wald	Sig.	Exp(B)
INV	0.001	0.000	17.881	0.000	1.001
BUR	-2.859	0.739	14.955	0.000	0.057
CAR	-0.348	0.147	5.596	0.018	0.706
Constant	-1.516	0.777	3.804	0.051	0.220

Source: Authors' analysis

Along with that, the Beta coefficient of INV is 0.001 which is greater than 0, which shows that INV has a positive impact on drop-out of athletes. This means that the more money you have to invest in

athletes, the higher the drop-out probability that it will occur. In contrast, the beta coefficients of BUR and CAR were -2.859 and -0.348, respectively, both less than 0, indicating the opposite effects of BUR and CAR on athletes' drop-out probability. This result also shows that if there is less burnout, it will be easier for athletes to drop-out. At the same time, if athletes are less likely to appear to play or participate in tournaments, they will have a higher risk of retirement. From there, the study concluded that the regression equation is:

$$Ln[P/(1-P)] = -1.516 - 2.859*BUR - 0.348*CAR + 0.001*INV + e$$

4.3 Discussion

The objective of this study is to identify some factors influencing the drop-out probability of athletes in Vietnam. The quantitative research results have emphasized the importance of factors including investment cost, burnout syndrome and career development. These factors will have different impacts on the drop-out probability of athletes in Vietnam. The impact of investment cost on drop-out decision found in this study is consistent with the results of other studies by Klint & Weiss (1986); Witt & Dangi (2018) while continuing to pursue a sports career requires large-scale and long-term financial investment, the increase in investment costs is a factor that causes an increase in the number of athletes choosing to quit their careers. The increase in burnout syndrome is found to lead to the decrease in the drop-out behaviors of athletes. However, this result goes against the study of West & Strand (2016); Witt & Dangi (2018) when the authors found that the more tired the athletes were, the more likely they were to give up. This could be explained by the fact that athletes may not be exhausted, but they can still suffer from mental pressure when their bodies are tired. In addition, athletes perceive competition and high expectations from themselves or from others, which makes them no longer feel happy and passionate about competing. In addition, given the personalities of athletes are always trying and making an effort, even when exhaustion increases, they will still try to the end to stick with the profession and prove themselves. This study also found that a decline in career development will also lead to a higher probability of drop-out in athletes. This result corroborates the studies of Barker et al. (2014) and Kristiansen et al. (2017). In addition, this study found no association between frequency of injuries, educational demands and household income to athletes' drop-out. This result is contrary to the recent studies of Baron-Thiene & Alfermann (2015); Enoksen & Eystein (2011); Keats et al. (2012); Koukouris (2005); Vella et al. (2013); Vella et al. (2014); Nicole et al. (2020). This can be explained by the fact that in the Vietnamese sports environment, there are financial support policies for athletes from the government or sports organizations. These supports help reduce dependence on family income and create conditions for athletes to continue their competitive careers. Additionally, in some cases, athletes may find that studying does not interfere with continuing their sports career, as there are many other career opportunities after retirement, such as coaching, sports teaching, or even in the business field. In addition, many sports academic institutions and professional sports teams have recently invested in professional health care systems to reduce the risk of injury and support athletes in recovering from injuries. This can help athletes in Vietnam become more confident and continue their sports careers.

5. IMPLICATIONS AND CONCLUSION

Through a quantitative research method with 159 responses from athletes, this study was conducted to find out the factors affecting the drop-out probability of athletes in Vietnam. The findings of the study showed that investment cost, burnout syndrome and career development affect the drop-out probability of athletes in different ways, whereas this impact was not demonstrated for frequency of injuries, educational demands and household income. Based on the above significant impacts, some policy and management implications can be proposed. Firstly, sports organizations need to take a close look when athletes experience burnout or injury problems. Organizations need to implement comprehensive wellness measures and ensure that athletes are provided with adequate activity, including proper nutrition, adequate sleep, and the necessary rest to recover from intense competition. In addition, managers need to establish regular health and wellness monitoring programs to detect early signs of burnout and provide timely solutions. A number of financial policies may be available to athletes when they are dealing with severe burnout issues. Training organizations can develop solutions to provide financial support for medical expenses related to burnout treatment and recovery, including medical, rehabilitation, and healthcare costs. In addition, flexible policies on leave and income support should be introduced for athletes during the time needed to recover from burnout without affecting their income. They also need to ensure that athletes have sufficient financial resources to return to competition after recovery and are ready to return to competitive activities safely. Secondly, the more uncertain the career development, the higher the probability of athletes quitting. To promote the development of career opportunities for sports athletes in Vietnam, the following managerial implications can be applied such as investing in the professional athlete training system from the youth level, including providing facilities, quality coaches and diverse training programs; facilitating sportsman to engage in innovation and entrepreneurship in the sports sector, and creating an environment that supports and encourages creativity in developing career opportunities. In addition, it is necessary to create policies to encourage investment in the sports industry, including financial support and preferential tax rates so that organizations, businesses and individuals can invest in developing career opportunities for athletes. Organizations need to establish financial funds to support athletes, including support for training, competition, health care and career development costs after retirement. In addition, sport organizations and the Ministry of Culture, Sports and Tourism need to further study policies related to providing personal financial support programs, including savings or investments, to ensure athletes have a stable source of income after retirement. Thirdly, the research finds out that if the cost of investing in sports increases, athletes will tend to have a harder time staying in the profession. Therefore, some important financial policy implications need to be considered, such as increasing the mobilization of financial support from the government and social organizations. Accordingly, organizations or governments need to pay attention to providing scholarships or support funds for low-income families so that their children can continue to pursue their passion for sports more easily. In addition, it is possible to organize sponsorship programs from social organizations or businesses to help families reduce financial pressure when investing in training for athletes. In addition, although support for young athletes from sports organizations and businesses is being implemented, organizations and authorities still need to step up the development of training, competition and career development support programs for young athletes from sports organizations and businesses, helping to reduce costs for families. In addition, authorities specializing in sports management need to propose and create an environment to support and

encourage sponsorship from businesses to help young athletes continue to pursue a sustainable sports career.

The study has found some important results and proposed related management and policy implications, but still encountered some limitations as follows. The snowball sampling method was implemented due to the difficult context of accessing athletes in Vietnam. In addition, the sample size of 159 athletes is quite limited. Thus, to perform better in the future, the authors propose to use probability sampling methods and increase the number of survey samples. In addition, it has been shown that the socio-economic context of a country can lead to whether the sports industry is heavily invested and focused or not. Therefore, in the future, studies conducted related to this topic can build more contextual variables to find more in-depth results.

REFERENCES

Adie, J. W., Duda, J. L., & Ntoumanis, N. (2010). Achievement goals, competition appraisals, and the well- and ill-being of elite youth soccer players over two competitive seasons. Journal of Sport & Exercise Psychology, 32, 555e579.

Barker, D., Barker-Ruchti, N., Rynne, S., & Lee, J. (2014). Moving out of sports: a sociocultural examination of Olympic career transitions. International Journal of Sports Science & Coaching, 9(2), 255-270.

Baron-Thiene, A., & Alfermann, D. (2015). Personal characteristics as predictors for dual career dropout versus continuation e A prospective study of adolescent athletes from German elite sport schools. Psychology of Sport and Exercise, 21, 42-49.

Baur, J. (1998). Youth High-Performance Sports Careers. Sportwissenschaft, 28(1), 9–26.

Bee, P. (2021). Reducing drop-out rates in athletics. Available at: https://athleticsweekly.com/featured/reducing-drop-out-rates-in-athletics-1039943169/.

Borelli, S. (2024). 70% of kids drop out of youth sports by age 13. Here's why and how to fix it, per AAP. USA Today. Available at: https://www.usatoday.com/story/sports/2024/01/22/70-of-kids-drop-out-of-youth-sports-by-13-new-aap-study-reveals-why/72310189007/.

Brenner, J., & Watson, A. (2024). Overuse Injuries, Overtraining, and Burnout in Young Athletes. Pediatrics, 153(2), e2023065129.

Bussmann, G. (1995). How to prevent "dropout" in competitive sports. New Studies in Athletics, 1, 23-29.

Communist Party of Vietnam (2023). Vietnam sports delegation departs for SEA Games 32. Available at: https://dangcongsan.vn/the-thao/doan-the-thao-viet-nam-xuat-quan-du-sea-games-32-636025.html.

Dan, H. (2018). Why are athletes still poor and miserable?. Available at: https://laodong.vn/the-thao/vi-dau-van-dong-vien-the-thao-con-ngheo-con-kho-631893.ldo.

Dang, N. (2023). More than 11,000 athletes and officials attend SEA Games 32. Available at: https://laodong.vn/the-thao/hon-11000-van-dong-vien-quan-chuc-du-sea-games-32-1170263.

Enoksen, E. (2002). A longitudinal and retrospective study of a selected group of promising track and field athletes. Norwegian School of Sport Sciences, Oslo.

Enoksen, E. (2011). Drop-out Rate and Drop-out Reasons Among Promising Norwegian Track and Field Athletes: A 25 Year Study. Scandinavian Sport Studies Forum, 2, 19–43.

Ferreira, I., van der Horst, K., Wendel-Vos, W., Kremers, S., van Lenthe, F., & Brug, J. (2006). Environmental correlates of physical activity in youth- a review and update. Obesity Reviews, 8, 129-154.

Goodger, K., Gorely, T., Lavallee, D., & Harwood, C. (2007). Burnout in sport: a systematic review. The Sport Psychologist, 21(2), 127-151.

Gould, D., & Petlichkoff, L. M. (1988). Participation motivation and attrition in young athletes. In: Smoll, F. L., Magill, R. A., Ash, M. J. (eds). Children in Sport (3rd). Champaign IL: Human Kinetics, 161-167.

Gustafsson, H., Kentta, G., Hassmen, P., & Lundqvist, C. (2007). Prevalence of burnout in adolescent competitive athletes. The Sport Psychologist, 21(1), 21-37.

Gustafsson, H., Hassmen, P., Kentta, G., & Johansson, M. (2008). A qualitative analysis of burnout in elite Swedish athletes. Psychology of Sport & Exercise, 9(6), 800-816.

Hoffman, M. D., & Fogard, K. (2012). Demographic characteristics of 161-km ultramarathon runners. Research in Sports Medicine, 20, 59–69.

Hoffman, M. D., Ong, J. C., & Wang, G. (2010). Historical analysis of participation in 161 km ultramarathons in North America. The International Journal of the History of Sport, 27, 1877–1891.

Hosek, V. (1985). Motivation in Sports Training. Karolinum, Praha.

Johns, D.P., Lindner, K.J., & Wolko, K. (1990). Understanding attrition in female competitive gymnastics: Applying social exchange theory. Sociology of Sport Journal, 7, 158–171.

Keats, M., Emery, C.A., & Finch, C. (2012). Are we having fun yet? Fostering adherence to injury preventive exercise recommendations in young athletes. Sports Medicine, 42, 175–184.

King, M.A., Pickett, W., & King, A.J.C. (1998). Injury in Canadian youth: A secondary analysis of the 1993–94 health and behavior in school-aged children survey. Canadian Journal of Public Health, 89, 397–401.

Klint, K.A., & Weiss, M.R. (1986). Dropping in and dropping out: Participation motives of current and former youth gymnasts. Canadian Journal of Applied Sport Sciences, 11, 106–114.

Koukouris, K. (2005). Premature athleteic disengagement of elite Greek gymnasts. European Journal for Sport and Society, 2, 35–56.

Kreim, G., & Mayer, R. (1985). Interruption of a sports career in adolescent. Sportswissenschaft, 15(4), 398-409.

Kristiansen, E., MacIntosh, E. W., Parent, M. M., & Houlihan, B. (2017). The Youth Olympic Games: a facilitator or barrier of the highperformance sport development pathway?. European Sport Management Quarterly, 18(1), 73-92.

McCarthy, K.P.H., & Jones, M.A. (2015). Understanding Dropout in Competitive Youth Sports: A Review of Empirical Research. Sport & Exercise Psychology Review.

Moulds, K., Galloway, S., Abbott, S., & Cobley, S.P. (2022). Youth sport dropout according to the process-person-context-time model: A systematic review. International Review of Sport and Exercise Psychology, 17(1), 1-42.

Nicole, Z., Phillip, V., & Don, S. (2020). Keeping Girls in the Game: Factors That Influence Sport Participation. Women's Sports Foundation, ED603915.

Poli, R., Ravenel, L., & Besson, R. (2023). Inflation in the football players' transfer market (2013/14-2022/23). CIES Football Observatory Monthly Report. Available at https://football-observatory.com/Inflation-in-the-football-players-transfer-market.

Razvan, B.M.C., Bogdan, B.G., Roxana, D., & Catalin, P.M. (2020). The Contribution Of Sport To Economic And Social Development. Studia UBB Educatio Artis Gymn, LXV, 1, 27 - 38.

Robinson, T.T., & Carron, A.V. (1982). Personal and situational factors associated with dropping out versus maintaining participation in competitive sport. Journal of Sport and Exercise Psychology, 4(4), 364–378.

Slepickova, I., & Kavalir, P. (1997). Social and Professional Adaptation of Elite Athletes. Collection Physical Education and Sport at the Turn of the Century, FTVS UK, Praha, Facultatis Educations Physicae Universitatis Comenius, Bratislava, 127-137.

Stambulova, D.M. (2011). Predicting the Dropout of Elite Youth Athletes: A Longitudinal Analysis. International Journal of Sport and Exercise Psychology.

Vella, S.A., Cliff, D.P., Okely, A.D., Scully, M., & Morley, B. (2013). Associations between organized sports participation and obesity-related health behaviors in Australian adolescents. International Journal of Behavioral Nutrition and Physical Activity, 10, 113.

Vella, S.A., Cliff, D.P., & Okely, A.D. (2014). Socio-ecological predictors of participation and dropout in organised sports during childhood. International Journal of Behavioral Nutrition and Physical Activity, 11(1), 62.

West, G. S., & Strand, B. (2016). Preventing youth sports dropouts. Louisiana Association of Health, Physical Education, Recreation, and Dance (LAHPERD) Journal, 79(2), 13–15.

Witt, P.A., & Dangi, T.B. (2018). Why Children/Youth Drop Out of Sports. Journal of Park and Recreation Administration, 36, 191– 199.