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Distinctive Features of Student-Athletes' Adaptation to Higher Education

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Abstract: This article analyzes the specific characteristics of adaptation to the educational process in higher education institutions among student-athletes majoring in Physical Education. Their adaptation process is compared with that of students in other academic fields and examined from physiological, psychological, and social perspectives. The research findings demonstrate that adaptation among student-athletes is complex and multifactorial. The study substantiates the necessity of balancing physical workload and cognitive activity, promoting a healthy lifestyle, and strengthening pedagogical support mechanisms to enhance adaptation efficiency.

Keywords: Physical Education, Adaptation, Student-Athlete, Psychological Strain, Cognitive Workload, Social Adaptation, Reserve Capacities, Academic Stress, Psychophysiological State, Independent Learning, Statistical Analysis

1. Introduction

At the present stage of societal development, reforms in the higher education system require the improvement of specialist training in the field of Physical Education. The transition to higher education is a complex stage in young people's lives, associated with significant psychological, social, and physiological changes.

For student-athletes majoring in Physical Education, this process requires balancing a dual workload — academic studies and sports activities.

Compared with students of other specialties, students of the Faculty of Physical Education demonstrate several distinctive features of adaptation. Although they possess high motor activity, strong physical fitness, and extensive social interaction experience, they often face psychological difficulties due to increased intellectual workload and the equalization of social status in a new academic environment. Research indicates that participation in sports enhances stress resilience; however, under high academic demands, psycho-emotional tension may increase (Gustafsson et al., 2017).

Adaptation in biological and social sciences is interpreted as the functional restructuring of an organism or individual in response to new conditions. Among student-athletes, this process involves not only a change in social environment but also a sharp increase in intellectual activity, transformation of social status, and heightened psycho-emotional pressure. Psychological studies show that high sports qualification does not necessarily imply high academic adaptation, as sports activity primarily relies on operational-reactive thinking, whereas academic activity requires analytical and abstract thinking.

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The purpose of this study is to identify the mechanisms of student-athletes' adaptation to higher education and to substantiate factors that enhance adaptation efficiency.

2. Materials and Methods

The study empirically examined the level of adaptation to higher education among student-athletes majoring in Physical Education. First-year students participated in the research ($N = 84$). The adaptation process was analyzed from psychological, physiological, and social perspectives. Questionnaire surveys, observation, and statistical analysis methods were employed.

The results indicated that student-athletes demonstrate moderate to high levels of academic stress, and insufficient development of independent learning skills complicates adaptation. Ensuring a balance between cognitive and physical workload was found to increase adaptation efficiency.

The study involved 84 first-year students of the Faculty of Physical Education (52 males, 32 females; mean age 18.9 ± 0.7). Among them, 63% held the title of Candidate for Master of Sport or had high sports rankings.

Adaptation was assessed based on the balance between intellectual and physical workload, level of sports qualification, age, constitutional characteristics, and psychophysiological state.

Methods Used

1. **Adaptation Assessment Questionnaire** (4 blocks, Likert scale 1–5; Cronbach's $\alpha = 0.82$):
 - Academic adaptation (10 items)
 - Psychological stress level (10 items)
 - Social integration (8 items)
 - Balance of physical and cognitive workload (8 items)
2. Psychological stress assessment test based on the cognitive appraisal model of Richard Lazarus and Susan Folkman (1984).
3. Statistical analysis:
 - Descriptive statistics (M, SD)
 - Student's t-test
 - Correlation analysis

3. Results

1. General Adaptation Indicators

Psychological stress was above average ($M = 3.8$), while workload balance showed the lowest indicator ($M = 2.9$).

2. Correlation Analysis

- A negative correlation was identified between psychological stress and academic adaptation ($r = -0.62$, $p < 0.01$).
- A positive correlation was found between workload balance and overall adaptation ($r = 0.71$, $p < 0.01$).
- A moderate positive correlation was observed between sports qualification level and stress resilience ($r = 0.44$, $p < 0.05$).

These findings indicate that increased stress reduces adaptation, whereas workload balance improves adaptive outcomes.

3. Changes During Examination Period

During examination sessions:

- 68% of students experienced sleep disturbances;
- 54% reported increased emotional tension;
- 37% reduced their physical training volume.

These findings correspond to the stages of the General Adaptation Syndrome described by Hans Selye (1976).

4. Discussion

The results are consistent with the social integration model proposed by Vincent Tinto (1993), which states that successful integration into the academic community increases adaptation levels.

According to the cognitive appraisal theory of stress by Lazarus and Folkman (1984), the way an individual perceives stress determines adaptation outcomes. Among student-athletes, strong achievement orientation may serve as an additional stress-enhancing factor.

Gustafsson and colleagues (2017) emphasize the risk of burnout syndrome among athletes. The present findings confirm that excessive academic and sports workload may lead to maladaptation.

Adaptation is a multidimensional process requiring the interaction of physiological, psychological, pedagogical, and social components. Although student-athletes possess high morpho-functional reserves, excessive workload may provoke maladaptive conditions.

Morpho-Functional Changes. Long-term sports participation leads to the development of:

- high adaptability of the cardiovascular system;
- expanded functional capacity of the respiratory system;
- rapid nervous system response;
- increased energy reserves.

These indicators reflect high “reserve capacities,” defined as the organism’s ability to maintain functional stability under conditions exceeding habitual load.

However, scientific evidence suggests that prolonged cognitive strain and psychological stress may disrupt autonomic balance regardless of physical fitness level. During examination periods, activation of the sympathetic nervous system increases heart rate and cortisol levels. Without adequate recovery, this condition may lead to maladaptation.

5. Conclusion

Despite high levels of physical fitness, successful academic adaptation of student-athletes requires a comprehensive approach. Managing the adaptation process effectively enhances not only academic performance but also health status and professional preparedness.

The study findings indicate that:

- Student-athletes experience elevated psychological stress levels;
- Workload balance is the main predictor of adaptation;
- Social integration and sports qualification improve stress resilience;
- A comprehensive pedagogical and psychological support system enhances adaptation efficiency.

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