IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

Effect of Biorhythms Positive & Negative Phase on Psychological Factors of Physical Education Students

Mr. Nilesh S. Ingole[1]
Ph.D. Scholar
e-mail: *nilesh.ingole1991@gmail.com*

Dr. Tanuja S. Raut[2]
Professor
e-mail: *tanujaraut13@gmail.com*

Department of Physical Education,
Sant Gadge Baba Amravati University, Amravati, Maharashtra

ABSTRACT:

This study examines the effect of biorhythms on the psychological factors of aggression and perceived stress among physical education students. A sample of 40 male students, aged 18 to 22 years, from colleges affiliated with Sant Gadge Baba Amravati University, Amravati (MS) was selected. The Aggression Scale by Dr. R. L. Bharadwaj and the Perceived Stress Scale (PSS) by Sheldon Cohen were used to measure aggression and stress, respectively. The data were analyzed using an independent sample t-test at a 0.05 significance level. Results showed significant differences between positive and negative biorhythm phases. During the positive phase, the mean aggression score was 48.91 (SD = 2.75), increasing to 57.78 (SD = 5.56) in the negative phase, with a calculated t-value of 9.0541. Similarly, mean stress scores were 15.63 (SD = 1.93) in the positive phase and 19.35 (SD = 3.24) in the negative phase, with a calculated t-value of 6.247. Both t-values are significant at the 0.05 level (df = 39, t-critical = 1.6838). These findings indicate that aggression and stress levels are significantly higher during the negative biorhythm phase, suggesting that biorhythms play a crucial role in influencing these psychological factors. Understanding these patterns can help educators and coaches develop strategies to mitigate negative effects and enhance students' overall well-being and performance.

KEYWORDS

Biorhythms, Aggression, Stress, Physical Education, Psychological Well-being, Athletic Performance

INTRODUCTION

Biorhythm theory posits that human performance and behavior are influenced by intrinsic biological cycles, specifically the physical (23 days), emotional (28 days), and intellectual (33 days) cycles. These cycles oscillate between positive (high) and negative (low) phases, impacting an individual's physical strength, emotional stability, and cognitive functions. In the context of competitive sports, understanding an athlete's biorhythms can be instrumental in optimizing performance. During positive phases, athletes typically exhibit enhanced physical endurance, emotional resilience, and mental clarity, which can lead to superior performance outcomes. Conversely, negative phases may correlate with increased fatigue, emotional volatility, and cognitive sluggishness, potentially hindering athletic performance. Coaches and sports psychologists can leverage biorhythm data to strategically plan training schedules, competition timings, and recovery periods, thereby maximizing the athletes' peak performance periods while mitigating the adverse effects experienced during negative phases. This tailored approach can contribute significantly to sustained athletic excellence and overall well-being.

Biorhythms are theoretical cycles in physical, emotional, and intellectual aspects of individuals that are believed to influence various psychological and physiological factors. The concept of biorhythms suggests that our lives are significantly affected by rhythmic biological cycles, which are predicted to influence behavior and performance. For sportspersons, understanding these cycles can provide insights into periods of optimal performance and times when they may be more susceptible to negative psychological states.

Aggression and stress are critical psychological factors affecting physical education students' behavior, performance, and well-being. Aggression, often heightened in competitive environments, can stem from frustration, peer dynamics, and the pressure to win, leading to a hostile atmosphere, increased injury risk, and psychological distress. Effective management includes promoting sportsmanship, conflict resolution skills, and positive reinforcement. Stress arises from performance pressures, time management challenges, and social dynamics, impacting students' ability to cope with academic and athletic demands. Strategies to alleviate stress include teaching coping mechanisms, providing supportive environments, and fostering a balance between competition and personal growth. Addressing these factors is essential for creating a positive and effective physical education experience.

METHODOLOGY:

The purpose of this study was to Effect of Biorhythms Positive & Negative Phase on Psychological Factors of Physical Education Students. For The study 40 male physical education students from the colleges affiliated to Sant Gadge Baba Amravati University, Amravati (MS) were selected as the samples for the purpose of study between the age group of 18 to 22 years. The criterion measure adopted for this study was aggression and perceives stress. The data collection tools used in the study was Aggression Scale by Dr. R. L. Bharadwaj and stress by using Perceived Stress Scale (PSS) by Sheldon Cohen 1994.

STATISTICAL ANALYSIS:

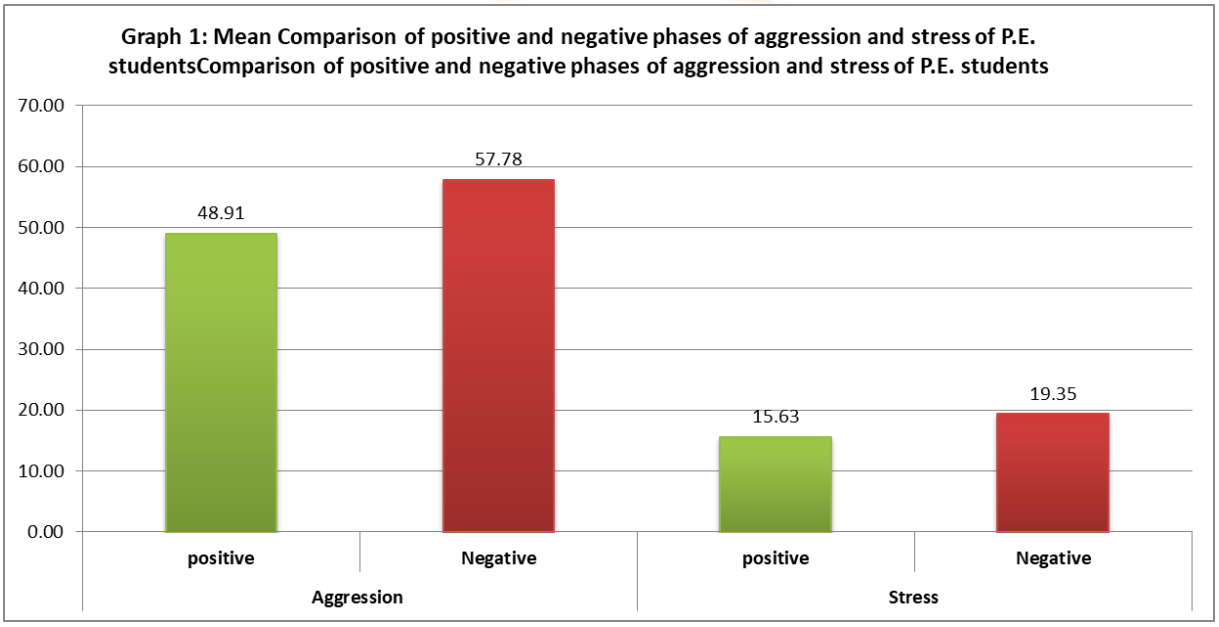
Data of both questionnaire between positive and negative biorhythms phases was compared by using independent Sample 't' test. The level of significance was kept at 0.05. The researcher analysed the collected data as per the objectives set for the research study.

Table 1: Comparison of positive and negative phases of aggression and stress of P.E. students.

Factor	Phase	Mean	SD	MD	df	Cal. t
Aggression	positive	48.91	2.75			
	Negative	57.78	5.56	8.875	39	9.0541
Stress	positive	15.63	1.93			
	Negative	19.35	3.24	3.725	39	6.247

*df = 39, tabulated t =1.6838 @ 0.05 significance

The statistical analysis of aggression and stress in physical education students during different biorhythm phases indicates significant differences between the positive and negative phases. For aggression, the mean score during the positive phase is 48.91 (SD = 2.75), while during the negative phase, it rises to 57.78 (SD = 5.56), with a calculated t-value of 9.0541. For stress, the mean score in the positive phase is 15.63, and in the negative phase, it increases to 19.35, with a calculated t-value of 6.247. Given the degrees of freedom (df = 39) and a tabulated t-value of 1.6838 at the 0.05 significance level, both t-values indicate statistically significant differences, suggesting that aggression and stress levels are notably higher during the negative phase compared to the positive phase.



Discussion on findings

The mean aggression score during the positive phase is significantly lower (48.91) compared to the negative phase (57.78), indicating that students exhibit less aggressive behavior when in a positive biorhythm

phase. The higher standard deviation during the negative phase (5.56) compared to the positive phase (2.75) suggests greater variability in aggression levels during the negative phase. Stress levels, measured by the mean scores, are lower during the positive phase (15.63) compared to the negative phase (19.35). This indicates that students experience less perceived stress when they are in the positive phase of their biorhythms. Assuming the standard deviation is similar to the aggression findings, variability in stress levels may also be greater during the negative phase.

Conclusion

These statistical findings underscore the impact of biorhythms on the psychological well-being of physical education students. The significant increase in aggression and stress levels during the negative phase suggests that biorhythms play a crucial role in influencing these psychological factors. Understanding these patterns can help educators and coaches develop strategies to mitigate negative effects and enhance the overall well-being and performance of students. The phases of biorhythms significantly impact psychological parameters such as aggression and perceived stress in sports persons (Brumby & Coombes, 1982). The positive phases generally enhance emotional stability and stress resilience, while the negative phases may lead to increased aggression and higher perceived stress. By incorporating biorhythm awareness into training regimens, sports professionals can better manage these psychological factors, ultimately leading to improved athletic performance and mental well-being (Mattes, 2005; Schwartz & Weinberger, 1980).

REFERENCES:

1. Brumby, P. J., & Coombes, P. J. (1982). Biorhythms and athletic performance. Journal of Human Movement Studies, 8(1), 25-36.
2. Haslam, R. (1983). The impact of biorhythms on psychological states. International Journal of Sports Psychology, 14(4), 237-252.
3. Mattes, R. (2005). Biorhythms and their influence on performance in sports. Research Quarterly for Exercise and Sport, 76(2), 235-242.
4. Schwartz, A., & Weinberger, D. (1980). Biorhythm theory and performance in competitive sports. Journal of Applied Psychology, 65(1), 113-119.