



Effects of Humor in Physical Education on Enjoyment, Intention to Physical Activity, and School Happiness in Primary School Students

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Abstract

Introduction: The importance of physical education within educational institutions is well recognized; however, there exists a paucity of research examining the role of humor in enhancing the quality of physical education (PE).

Objective: This research aims to assess the impact of humor in PE on students' enjoyment, their intention to physical activity (PA), and school happiness among primary school pupils.

Methods: This study employed a semi-experimental design with a practical application, incorporating both pre-test and post-test assessments alongside a control group. The sample comprised 44 primary school male students, who were organized into two groups: the intervention group and the control group, each containing 22 students. Enjoyment, intention to PA and school happiness were measured using Enjoyment in Physical Education, Intention to Physical Activity, and School Happiness Scale. Data was analyzed using ANCOVA.

Results: The analysis performed at the end of the intervention period indicated significant differences among the groups regarding enjoyment ($F=5.684$, $P<0.001$), intention to PA ($F=7.339$, $P<0.001$), and school happiness ($F=18.749$, $P<0.001$).

Conclusion: These findings suggest that the humor-based intervention implemented in PE effectively enhanced enjoyment, intention to PA, and school happiness among male students in primary school. Physical educators significantly contribute to the establishment of a supportive and conducive learning atmosphere.

Keywords: Humor, Physical Education, Enjoyment, Exercise, Child

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1. Introduction

Humor is defined as a social construct that alleviates specific types of pressure, excitement, and embarrassment (1). In defining humor, it is essential to consider not only the laughter it elicits but also the context in which it occurs (2). A comprehensive definition should address both the stimulus and the response involved. According to this perspective, humor represents a relational dynamic, whether expressed through written, verbal, visual, or other forms (3). It encompasses various instances such as jokes, witty remarks, sarcasm, and playful banter, which can foster warmth, connection, and smiles among individuals (4). Furthermore, humor reflects the inherent differences in individuals' behaviors, experiences, emotions, attitudes, and abilities to engage in social interactions, laughter, and lightheartedness (1,3). Humor can serve as a valuable tool for optimizing educational processes (5). Well-planned and appropriate humor aids students in

acquiring knowledge while simultaneously redirecting their attention from external distractions back to the classroom environment (5,6). In fact, learning that incorporates humor tends to be more enjoyable and effective, and fostering a humorous atmosphere in the classroom can preemptively reduce disciplinary issues. Additionally, laughter and humor enhance children's focus and assist them in retaining the information they have learned (5). Humor can make a school day feel shorter and more enjoyable, helping students adapt to challenges and alleviating monotony (4-6). The relationship between laughter and academic success has been documented in various studies (7,8).

Numerous theories exist regarding the reasons behind human laughter and the utilization of humor and wit. One prominent theory, known as the incongruity theory, posits that humor arises from a form of incongruity or disorder, which is often recognized during moments of calm and comfort (9). This theory suggests that situations that initially seem



devoid of humor can, over time, develop a humorous aspect, particularly when individuals encounter crises. In such instances, the passage of time allows for the transformation of these crises into humorous reflections, thereby facilitating a coping mechanism through humor. The theory of superiority of humor posits that individuals derive pleasure from the misfortunes of others, thereby establishing a sense of superiority (9). Consequently, this perspective implies that humor serves as a means for individuals to elevate their self-worth and experience a sense of value in their interactions with others. The theory of liberation represents one of the most prominent theories concerning the natural and social aspects of existence (9). According to this theory, the social acceptance of certain behaviors is essential for the alleviation of psychological stress and the pursuit of personal freedom. Within this framework, the body is also viewed as a site of repression, where taboos related to sexuality and mortality are imposed and subsequently challenged.

Research has demonstrated the significant impact of humor on mental health, optimism, personal development, and the enhancement of motivational behaviors among teachers and students (10-12). Additionally, previous studies highlighted the importance of social skills, attention, and memory capacity, as well as the learning of foreign languages and the promotion of creative and critical thinking in students (13,14). In addition, there is no observed difference in the relationship between types of humor and gender; however, women tend to exhibit a greater degree of empathy in their humorous expressions (10,15,16). Then, the creation of educational environments that foster creativity and adaptability among learners is essential. It is crucial to avoid coercive methods that may hinder students' cognitive development and natural inclinations. Effective teaching strategies should prioritize flexibility and the establishment of supportive frameworks that encourage exploration and inquiry. By enhancing students' confidence and promoting curiosity, educators can effectively integrate research into teaching practices, thereby nurturing creativity and critical thinking skills in youth.

Research indicates that the competencies of teachers are perceived by learners through various dimensions (17-20). These dimensions include the ability to deliver lessons effectively, which encompasses clarity and diversity in instructional materials, attention to assignments and their relevance, as well as the adept use of available resources and facilities for teaching. Furthermore, teachers' skills in classroom management, including the efficient use of time and a sense of responsibility, are crucial (18,19). Subject-specific knowledge, which pertains to the teacher's expertise in their field, is also significant. Additionally, ethical considerations, such as fairness and the absence of discrimination among students, play a vital role in shaping the educational environment. In addition, the nature of interactions and respect shown towards students is essential, as it contributes to the overall learning experience. From the perspective of students, ethical qualities and character traits are equally important in relation to other competencies. Finally, selection of an effective humorous style can significantly enhance the mental well-being of individuals, leading to improved performance in various contexts. Furthermore,

research findings underscore the role of humor in fostering self-esteem and highlight the importance of employing adaptive humorous styles to mitigate feelings of shyness and loneliness among students (21,22).

Physical education (PE) is an educational and developmental process aimed at enhancing human performance and growth through physical activities (23). PE is defined as a component of general education that is implemented through physical activities and movements, including various forms of play, competition, sports, exercises, gymnastics, rhythmic activities, and similar pursuits (24,25). Additionally, in another definition, PE is characterized as an educational process in which physical activity (PA) serves as a means to assist students in acquiring skills, readiness, knowledge, and a positive attitude towards optimal growth and well-being (25,26). It encompasses the holistic development of students using sports and physical activities as tools, representing one of the most sustainable and accessible methods for the social education of students. PE encompasses the acquisition and enhancement of motor skills, the development and upkeep of physical fitness for overall health and well-being, the acquisition of scientific knowledge related to physical activities, and the cultivation of a positive attitude towards exercise as a method to enhance human performance (25,27,28). Among various governmental institutions, the Ministry of Education plays a significant role in promoting sports within the community.

Contemporary societies are undergoing rapid transformations, necessitating a fundamental examination of the educational processes within schools to enhance PE. PE plays a crucial role in the overall physical development and character formation of individuals (25,26,29). Promoting school-based PA fosters a lifelong culture of sports and enhances the physical and mental well-being of students (22,25,29). Effectively managing sports as an educational resource represents the initial step toward utilizing it as a tool for educational development (30). Given the significance of this issue, authorities and planners worldwide are consistently seeking new methods to enhance PE in schools.

Engagement in PA is characterized by the enjoyment derived from various activities (31). Play serves as a fundamental component of PA, with its significance evident from early childhood. As individuals grow, their affinity for play persists, particularly through participation in sports, which inherently incorporate playful elements. Consequently, the concept of playability becomes integral to PE (32). Ongoing involvement in PE fosters the development of patience and passion in individuals, aiding them in the pursuit of their objectives. Furthermore, this engagement positively influences individuals' attitudes towards PE. The enjoyment derived from sports and PA is positively correlated with a range of factors (33). Prior research indicates that this enjoyment serves as a mediator in the relationship between physical literacy and engagement in moderate to vigorous PA among college students (31,32). Additionally, enjoyment in PA is linked to the diversity of activities undertaken. For instance, a study revealed that high school students who reported lower levels of PA enjoyment were more likely to engage in multiple activities (34). Moreover, enjoyment in PA is positively related to perceived competence,

academic achievement, motivation to learn, and the social environment (33). Similarly, enjoyment in PE shares several associations with PA enjoyment. Research has demonstrated that higher levels of enjoyment in PE during early adolescence correlate with increased PA and self-efficacy within a school context. Furthermore, another investigation found a positive relationship between enjoyment of PE and levels of PA (32,34).

Research indicates the necessity of establishing safety conditions and organizational frameworks, optimizing the use of teaching spaces and resources, clearly delineating start and end times, adhering to student-centered methodologies, and conducting appropriate inspections to facilitate effective classroom management and ensure accurate resource acquisition in PE (35-37). In this context, a precise pedagogical approach that considers the needs of both PE instructors and students, while emphasizing physical conditions, time management, and the development of essential skills, will significantly contribute to achieving educational objectives. Successful learning hinges on robust and engaging communication between educators and learners. It is incumbent upon teachers to foster a dynamic classroom environment that encourages students to take responsibility, collaborate, engage in discussions, and enjoy the learning process. Given its beneficial attributes, humor is posited as a valuable tool in educational settings. Research conducted within this framework indicates that humor can significantly enhance teachers' motivation, productivity, and job satisfaction (10-12). Furthermore, it contributes to reducing stress and anxiety, fosters greater student engagement, makes the learning experience more enjoyable, and strengthens the interpersonal relationships between educators and learners.

The importance of PE within educational institutions is well recognized; however, there exists a paucity of research examining the role of humor in enhancing the quality of PE. Therefore, it is both pertinent and necessary to conduct a study that explores the advantages of incorporating humor into physical education programs. The outcomes of this investigation could provide new insights into various dimensions of PE in schools, rectify certain gaps in the current body of literature, and clarify existing uncertainties in this domain. Consequently, this research aims to assess the impact of humor in PE on students' enjoyment, their intention to PA, and school happiness among primary school pupils.

2. Methods

2.1. Participants

This study employed a semi-experimental design with a practical application, incorporating both pre-test and post-test assessments alongside a control group. The focus was on male students in primary school, specifically those in fourth grade. The participants were selected through a convenience sampling method. The sample size was determined using G*Power software, with a significance level set at 0.05 and a power of 0.95. Following a screening process for eligible candidates, 10 schools were recognized and then four schools were randomly selected, resulting in the identification of 65 male students as potential

participants. However, after further evaluation, 21 students were excluded from the study due to factors such as lack of motivation, absence of parental consent, and inconsistent attendance in training sessions. Consequently, the final sample comprised 44 students, who were organized into two groups: the intervention group and the control group, each containing 22 students. The criteria for participation in the study included: 1) being a male primary school student in fourth grade, 2) being free from any injuries or illnesses, and 3) having no restrictions on PA. Individuals failing to meet any of these criteria were excluded from the research.

2.2. Measurements

2.2.1. Enjoyment

The assessment of enjoyment in the PE was conducted using a questionnaire (38) that comprised three items rated on a Likert scale ranging from never (1) to always (5). In this research, the validity of the questionnaire was affirmed by eight experts, yielding a Content Validity Index (CVI) of 1.00 and a Content Validity Ratio (CVR) of 1.00. Additionally, the reliability of the questionnaire was indicated by a Cronbach's alpha coefficient of 0.94.

2.2.2. Intention to Physical Activity

The assessment of the intention PA was conducted through two questions (38) utilizing a Likert scale ranging from strongly disagree (1) to strongly agree (7). In this research, the validity of the questionnaire was affirmed by eight experts, yielding a CVI of 1.00 and a CVR of 1.00. In addition, the reliability of this questionnaire was also found to be high, with a Cronbach's alpha coefficient of 0.96.

2.2.3. School Happiness

This variable was evaluated using the inquiry, "In general, how would you rate your happiness in the school over the past two weeks?", with response choices ranging from 0, indicating "Not at all happy," to 10, signifying "Completely happy." In this study, the reliability of this questionnaire was found to be high, with a Cronbach's alpha coefficient of 0.98.

2.3. Procedure

The research commenced with the necessary coordination with the Education Department, followed by obtaining permission to proceed. Subsequently, a briefing session was conducted to introduce the research objectives, methodologies, and intervention implementation to the students and their parents. Written consent was then acquired from the parents, and the pre-test encompassed all research questionnaire. The intervention group underwent a humor-based intervention in PE. Given that previous research had not utilized humor interventions in PE, this study implemented an innovative intervention. This intervention was based on enjoyable games and humor within PE. To facilitate this, PE teachers in the intervention group participated in two sessions where they were introduced to the concept of humor, relevant theories, and the specific games selected by the researcher for this study. The games were included "musical chairs", "duck, duck, goose", "follow the leader", "Simon says", "hopscotch", "wrestling", and

“crab walk”. These sessions allowed for open discussions and questions to clarify any uncertainties the teachers had. Following the training sessions, final arrangements were made with the respective schools to carry out the research protocol. The intervention lasted for four months (16 weeks), occurring one weekly during PE (7). Throughout the intervention, the researcher maintained consistent communication with the teachers in the intervention group to ensure the research protocol was implemented accurately and thoroughly. After the completion of the research protocol, the participants filled out the research questionnaires again to obtain post-test scores. The control group attended the routine PE and did not receive any additional interventions.

2.4. Data Analysis

In this research, the variables were defined through the calculation of mean, standard deviation (SD), frequency, and frequency percentage. The Shapiro-Wilk test was utilized to evaluate the normality of the data distribution. To compare pretest scores across the research groups, both the independent t-test and chi-square test were employed. Furthermore, analysis of covariance (ANCOVA) was used to examine the

differences between the two groups. A significance threshold of 0.05 was set for all analyses, which were performed using SPSS version 27.

3. Results

3.1. Demographic Data

Table 1 illustrates the mean and SD of the demographic characteristics of the child participants. The average ages of the participants in the intervention and control groups were 10.02 ± 0.23 years and 10.05 ± 0.30 years, respectively, with no statistically significant differences identified ($P > 0.05$). Baseline assessments indicated that the body mass index (BMI) of participants in both groups was similar, again revealing no significant differences ($P > 0.05$). Regarding parental demographics, the analysis showed that the majority of parents fell within a medium socioeconomic status category (32 individuals, 72.7%), with no significant differences between the intervention and control groups ($P > 0.05$). Additionally, a significant portion of the parents held undergraduate degrees (28 individuals, 63.6%), with no notable differences between the groups ($P > 0.05$).

Table 1. Demographic Characteristics of the Children.

Variable	Intervention	Control	Comparison
Age (years)	10.02 ± 0.23	10.05 ± 0.30	$P=0.839$
Height (m)	1.27 ± 0.06	1.28 ± 0.07	$P=0.947$
Weight (kg)	27.49 ± 1.54	27.58 ± 1.67	$P=0.768$
BMI	17.00 ± 0.55	17.16 ± 1.17	$P=0.824$

3.2. Pre-test Scores

Table 2 illustrates the mean and SD of research variables, alongside the comparative outcomes among the groups. The results revealed that the mean enjoyment score was 2.59 and 2.52 respectively for the intervention and control groups, reflecting a moderate level of perceived enjoyment among the students. Additionally, the analysis indicated no significant differences between the groups ($P=0.663$). Moreover, the mean score for intention to participate in PA was 3.48 and 3.50 respectively for the intervention and

control groups, which also signifies a moderate level of intention among the students. Again, the results showed no significant differences between the groups ($P=0.428$). Lastly, the mean score for school happiness was recorded at 4.12 and 4.09 respectively for the intervention and control groups, indicating a moderate level of perceived happiness within the school environment. Consistently, the results indicated no significant differences between the groups ($P=0.746$).

Table 2. Pretest Scores Across Groups.

Variable	Intervention	Control	Comparison
Enjoyment	2.59 ± 0.20	2.52 ± 0.17	$t=0.536$ $P=0.663$
Intention to Physical Activity	3.48 ± 0.59	3.50 ± 0.52	$t=-0.685$ $P=0.496$
School Happiness	4.12 ± 0.69	4.09 ± 0.74	$t=0.428$ $P=0.746$

3.2. Effects of the Humor-Based Intervention

Table 3 presents the average differences in research variables from the pretest to the posttest, as well as the comparative results across the different groups. The analysis performed at the end of the intervention period indicated significant disparities among the

groups regarding all evaluated parameters, including enjoyment, intention to PA, and school happiness ($P < 0.001$). These findings suggest that the humor-based intervention implemented in PE effectively enhanced enjoyment, intention to PA, and school happiness among male students in primary school.

Table 3. The Results of ANCOVA.

		Intervention	Control	F-Value	P-Value
Enjoyment	Pre-test	2.59 ± 0.20	2.52 ± 0.17	5.684	<0.001
	Post-test	3.63 ± 0.26	2.54 ± 0.19		
Intention to Physical Activity	Pre-test	3.48 ± 0.59	3.50 ± 0.52	7.339	<0.001
	Post-test	5.93 ± 0.73	3.95 ± 0.54		
School Happiness	Pre-test	4.12 ± 0.69	4.09 ± 0.74	18.749	<0.001
	Post-test	7.72 ± 0.82	4.83 ± 0.77		

4. Discussion

The importance of PE within educational institutions is well recognized; however, there exists a paucity of research examining the role of humor in enhancing the quality of PE. Therefore, this research aims to assess the impact of humor in PE on students' enjoyment, their intention to PA, and school happiness among primary school pupils. The results of this research indicated that the humor-based intervention applied within PE curriculum significantly improved enjoyment, willingness to engage in physical activities, and overall school happiness among male primary school students. These results corroborate earlier studies examining the impact of humor in educational environments (39-43) and suggest that humor can be effectively utilized in PE to enhance its overall quality.

To interpret these findings, it can be stated that the enhancement of student enjoyment and engagement in school activities is influenced by various factors, including diverse educational interventions, self-regulation attributes, cognitive strategies, social awareness, social skills, emotional intelligence, emotional engagement, learning perception, and motivational constructs. These elements collectively contribute to the overall academic achievement of students (10,13,39). The implementation of a positive and engaging educational environment is likely to have significant effects on the academic performance of students. Regarding the mechanisms through which this educational program operates, it can be asserted that the provision of enjoyable and stimulating activities enhances students' confidence and fosters their curiosity. Consequently, this leads to a reduction in emotional fatigue and an improvement in their overall performance (40,41). Additionally, a supportive teacher-student relationship can facilitate memory recall among students, thereby contributing to an increase in student efficacy and enjoyment. The current study also demonstrated that the humor-based intervention in PE significantly influences the increase of enjoyment and happiness as well as participation in school activities (10,11,42).

In addition, humor in teaching and the use of laughter as a communicative tool can significantly enhance social interactions and alleviate anxiety and stress. From the perspective of students, the presence of a positive demeanor and ethical conduct in educators fosters an environment of respect and attentiveness (11,41,43). When teachers exhibit a cheerful disposition, they not only engage students more effectively but also encourage them to develop their own interpersonal skills. This approach allows students to cultivate a more optimistic outlook towards their academic pursuits, ultimately leading to improved learning outcomes. It has also been noted that engaging in enjoyable 'time-out' activities can provide psychological advantages. Participants likely viewed the humor intervention as enjoyable, which may have led to corresponding positive shifts in their levels of happiness and enjoyment (39,42).

The use of humor in educational settings offers significant advantages, particularly in engaging students' interest and attention. While many students typically exhibit enthusiasm for PE, humor can serve as an effective strategy to captivate those who may seem less engaged. Additionally, humor has been shown to enhance students' ability to remember concepts presented during lessons. In this regard, humor and

instructional cues can complement each other effectively (11,40,42). Cues, defined as specific words or brief phrases, are designed to direct the learner's focus or initiate a particular movement or sequence of movements. The third advantage of incorporating humor into PE is its ability to foster an overall positive atmosphere within the classroom. Humor serves as a tool to cultivate a conducive learning environment, even during challenging activities. Such positive classroom climates are characterized by students feeling emotionally secure and encouraged to engage and explore the tasks at hand (12,41,42). Consequently, the integration of humor in this educational setting increases the likelihood that students who may be anxious or hesitant will feel sufficiently safe and at ease to take part in the activities. Physical educators significantly contribute to fostering a positive and supportive learning atmosphere, as highlighted by this third benefit. Through the strategic use of humor, they are able to alleviate student anxiety. Additionally, they emphasize the advantages associated with acquiring essential skills through the various units presented in PE (39,43).

This study encountered several limitations that warrant consideration. Primarily, the research concentrated exclusively on male children, which may limit the applicability of the findings to female counterparts. To bridge this gap, future research should investigate the influence of humor in PE on both the physical and psychological well-being of girls. Additionally, the lack of a follow-up assessment conducted at a later stage post-intervention restricts the ability to evaluate the long-term effects of humor interventions in PE. Therefore, it is advisable for future studies to incorporate follow-up assessments over extended periods to gain a clearer understanding of these impacts. A notable strength of this research lies in its implementation of humor interventions within PE, as the results can inform strategies to enhance PA and promote better mental health among children.

4.1. Conclusion

The purpose of this study was to assess the impact of humor in PE on students' enjoyment, their intention to PA, and school happiness among primary school pupils. Based on the findings of this study it can be concluded that the humor-based intervention applied within PE curriculum can significantly improve enjoyment, willingness to engage in physical activities, and overall school happiness among male primary school students. Physical educators significantly contribute to the establishment of a supportive and conducive learning atmosphere. Through the strategic use of humor, they are able to alleviate student's efficiency. Additionally, they emphasize the advantages associated with acquiring essential skills through the various units presented in PE.

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Footnotes

Authors' Contribution: Study concept and design: GH. S; GH. P. Acquisition of data: GH. S; GH. P. Analysis and

interpretation of data: MP. E; RM. A. Drafting of the manuscript: L. D; N. H; GH. S. Critical revision of the manuscript for important intellectual content: MP. E; GH. P; L.D. Statistical analysis: GH. S. Administrative, technical, and material support: N. H. Study supervision: GH. S.

Conflict of Interests: The researchers confirms that there is no conflict of interests in this study with any participant.

Data Availability: The data that support the findings of this study are openly available upon request from the corresponding author.

Ethical Approval: This research was carried out in compliance with the Declaration of Helsinki and received approval from the University Ethics Committee, under Code: IR.IAU.AK.REC.1398.001.

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