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# Comparative Study on Physical Literacy , Body Image Of IX–X Grade Girls Opting Physical Education and Computer Science from Pearl Drop School

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## ABSTRACT

*The main propose of the study is to study the Physical literacy and body image of IX & X GIRLS . In this study 56 students who has opted Physical education & Computer Science from Pearl Drop School (ICSE). The 56 students were Purposive Sampling Selecting participants based on specific characteristics or criteria relevant to the research because only grade IX & X has optional subject i.e., P.E & Computers. Therefore, these sample method techniques is the most suitable . Physical literacy and body image questionnaire designed especially for this study. Students were given remark as for physical education it's 'Not at all like me', 'Not really like me', 'Neutral', 'Quite like me', 'Very much like me' and for body image its 'Strongly agree', 'Agree', 'Neutral', 'Disagree' And 'Strongly disagree' on the basis of questionnaire. Descriptive data in the form of remark was analysed was counted. It is found that students of IX & X has slightly positive impact on physical education compared with computer science children.*

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**Keywords** : Physical Literacy, Body Image, Pearl Drop School, Confidence, Competence, Knowledge, Motivation, Beliefs and Thoughts, Feelings, Actions..

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## Introduction

Physical Education (PE) is crucial in school curriculums for promoting health, life skills, stress reduction, and instilling healthy habits. Physical literacy encompasses ability of competence, confidence, motivation, and knowledge & understanding in various physical activities. In India, historical roots show physical activities' integral role, but

challenges like infrastructure gaps, educational inconsistencies, societal attitudes, and cultural biases hinder physical literacy's widespread adoption. Addressing these challenges requires a comprehensive approach. Integrating physical literacy into curricula is key, teaching fundamental movement skills progressively. Effective teacher training is vital, focusing on understanding physical literacy principles and inclusive teaching methods. Supportive environments with quality facilities and partnerships can enhance physical activity opportunities. Overcoming challenges necessitates governmental reforms, improved education and training, community involvement, and awareness campaigns. Improving physical literacy in schools involves a multifaceted strategy, prioritizing physical activity, providing information, skills, and consistent opportunities for active lifestyles. This approach aims to create a physically literate society in India, benefiting individuals and communities alike.

Body image is a complex concept encompassing how individuals perceive and feel about their bodies, influenced by internal and external factors. It includes perceptual, cognitive, affective, and behavioural dimensions, shaped by societal norms, media, and cultural ideals. Studying body image is crucial for mental and physical health, societal impact, and interventions. The development of body image starts in childhood, influenced by family dynamics, peers, and media. Adolescence is critical, with gender differences emerging and societal pressures intensifying. Adults experience body image fluctuations influenced by life stages and societal expectations. Social factors like family dynamics, peer influence, educational institutions, and workplace culture significantly shape body image. Positive environments foster healthy body image, while negative dynamics can lead to dissatisfaction and disorders. Psychologically, body image impacts self-esteem, mental health, and can lead to body image disturbance disorders. Gender differences exist, with women often facing thinness ideals and men facing muscularity pressures. Media plays a significant role, perpetuating unrealistic beauty standards and influencing body image perceptions. Media literacy is crucial in mitigating negative effects. Interventions include prevention programs, individual therapy, and community initiatives, aiming to promote body positivity, self-esteem, and diversity. Teenagers' self-image encompasses physical, social, academic, and emotional aspects, greatly influenced by external factors. Positive environments and support systems are vital for fostering healthy self-image during adolescence.

### ***The Purpose of the study***

This study aims to compare the understanding of physical literacy and body image between physical education students and computer science students using a questionnaire. If the results show that physical education students have a better understanding, it suggests implementing physical education as a compulsory subject

from primary grades onwards to positively impact children's future.

## **Methodology**

### **Descriptive Survey Method**

A descriptive survey method is a research technique used to collect information about a population or a phenomenon by systematically gathering data from a sample of that population. This method aims to describe and summarize the characteristics, behaviours or opinions of the subjects under investigation. In physical literacy, body Image of IX & X grade girls opting Physical education and computer from Pearl Drop school and with the help of this will compare them. Therefore, this method is appropriate. It typically involves the use of structured questionnaires, interviews or observations about the studied group or topic Descriptive surveys do not involve experimental manipulation and are primarily focused on providing a snapshot or overview of the subject being studied.

### **Population:**

The population of the study is considered as the girls of 1X & X (Pearl Drop School) 56 in No. and total strength of the both classes (Boys& Girls) is 96 students.

### **Sample & Sample Justification:**

- Non-Probability, Purposive sampling technique.
- No. of girls (IX&X) = 56 student
- Physical Education students = 27
- Computers Students = 29

Non-probability sampling is a sampling method where not every member of the population has a known chance of being included in the sample. Unlike probability sampling, non-probability sampling does not rely on random selection. Instead, individuals are chosen based on the researcher's judgment, convenience, or specific criteria that's why I have chosen girls of grade IX & X those who have opted for P.E & Computers.

Purposive Sampling Selecting participants based on specific characteristics or criteria relevant to the research because only grade IX & X has optional subject i.e., P.E & Computers. Therefore, these sample method techniques is the most suitable.

### **Tools of Data Collections:**

Tools (Objectives)

Questionnaire - To check their knowledge, attitude toward Physical literacy which is competence, confidence, motivation, knowledge & understanding and Body Image about Emotion & behaviour, Body Evaluation, Personal characteristics, Appearance important in the future, Perceived social support, Priority of health, Appearance in social interaction, Perceived cultural values, Empowerment .Physical literacy and body image questionnaire designed especially for this study. Students were given remark as for physical education it's 'Not at all like me', 'Not really like me', 'Neutral', 'Quite like me', 'Very much like me' and for body image its 'Strongly agree', 'Agree', 'Neutral', 'Disagree' And 'Strongly disagree' on the basis of questionnaire.

### **Justification of Selecting Tool:**

The questionnaire method is chosen for data collection in research due to its efficiency in gathering standardized information from a large sample. It allows for a structured approach, easy analysis, and facilitates comparisons across participants. Additionally, it's cost-effective and can be administered remotely, providing flexibility for respondents. However, it's essential to consider the nature of the research questions and the target population to ensure the method aligns with the study's objectives. This questionnaire, an original tool was created by Nigel Green. This tool measure four components of Physical Literacy they are motivation, confidence, competence and knowledge. So far there was no tool which was measuring these components so I am also try to validates this tool is useful or not, and one more questionnaire for bodyimage. This questionnaire contains Physical literacy and body image questionnaire designed especially for this study. Students were given remark as for physical education it's 'Not at all like me', 'Not really like me', 'Neutral', 'Quite like me', 'Very much like me' and for body image its 'Strongly agree', 'Agree', 'Neutral', 'Disagree' And 'Strongly disagree' on the basis of questionnaire

### **Procedure of Research:**

In the first stage of the study, a relevant issue in the field of education was carefully chosen. With the approval from the school principal ma'am, the study was designed to encompass both offline and online data collection methods.. The collected data was meticulously analysed using statistical tools and qualitative techniques to extract meaningful insights. The results were then interpreted in light of the research question, leading to conclusions and recommendations for educational information

### **Ethical Consideration:**

- Permission from the Pearl Drop School was taken for the data collection.
- Consent form from the respondents was taken before collecting the data.

- Respondents are guaranteed that the data collected was used only for research purposes.
- Respondents are allowed to withdraw this data at any time from the research.

**Method of Analysis of Data:**

- Qualitative Data - Survey data was analysed.
- Quantitative Data - Survey data was analysed using statistical software (E.g., SPSS).
- Descriptive statistics (e.g., Mean, Median, standard deviation) was used.

**Analysis of Data and Statistical Interpretation**

**Table 4.1 :** Summary of Descriptive Statistics of Physical literacy (N=56)

N=56	M	SE R	Med .	MD	SD	Kurtosis	Range	Min	Max
Motivation	10.86	.37	11.00	10.00	2.78	-.91	10.00	5.00	15.00
Confidence	9.98	.36	10.00	11.00	2.72	-.46	12.00	3.00	15.00
Competence	10.18	.40	10.00	9.00	2.96	-.66	11.00	4.00	15.00
Knowledge understanding	11.70	.32	12.00	12.00	2.37	-.31	9.00	6.00	15.00
<b>Total</b>	42.71	1.27	42.00	42.00	9.49	-.23	41.00	19.00	60.00

M= Mean, SER= Std. Error, Med= Median, MD=Mode, S=Skewness, K= Kurtosis.

In TABLE 4.1, the statistical output about Physical literacy is summarized. Concerning the variable motivation, confidence, competence, knowledge & understanding were analysed. It is found that in motivation, confidence, competence, knowledge & understanding total mean is 42.71 indicates that, on average, the participants' motivation level is around Mean 42.7, Standard Deviation 9.49 and Range 41. Its

shows that the students have poor physical literacy as we expected it have to be above 60 but we got min is 19 and max is 60.

**Table 4.2** : Summary of 't' test for the Physical literacy

			Sig. (2tailed)	Mean Difference	Std. Error Difference
	T	df			
Motivation	.11	54.00	.91	.08	.75
Confidence	-.34	54.00	.74	-.25	.73
Competence	-.02	54.00	.99	-.01	.80
Knowledge & understanding	-1.62	54.00	.11	-1.02	.63

The first objectives was to compare the physical education and computer science students. The data was analysed with the help of t-test and the result are given in Table 4.2

From table 4.2 it can be seen that after finding t value in the table , using 25 degrees of freedom at 0.5 Significance alpha level the t table value is .91 (motivation), .74 (confidence), .99 (competence), .11 (knowledge & understanding).

The calculated t value is lesser than the t table value at alpha level 0.05. the table tvalue is greater than t value at alpha level  $p > 0.05$ .

Thus, after the comparison of t- test value of physical education and computer science students it is seen there is no significant difference found in the both subject students.

**Table 4.3** : Summary of Descriptive Statistics of Body Image(N=56)

N=56	M	Med	MD	SD	S	K	Rang e	Min	Max
Emotion & behaviour	55.7	57.5	54.0	11.4	-	-.57	46.00	29.0	75.0
	9	0	0	5	.37			0	0
Body Evaluation	19.7	21.0	21.0	5.78	-	-.83	23.00	7.00	30.00
	9	0	0		.21				0
Personal characteristics	21.1	22.0	22.0	5.77	-	-.33	21.00	9.00	30.00
	8	0	0		.51				0
Appearance	29.2	26.0	26.0	7.27	.43	-.76	28.00	17.0	45.00
	0	0	0					0	0
Perceived social support	12.6	13.0	13.0	3.47	-	-.45	14.00	6.00	20.00
	4	0	0		.02				0
Priority of health Appearance in social interaction	15.7	20.0	20.0	4.31	-	-.30	14.00	6.00	20.00
	9	0	0		.93				0
	8.70	6.00	6.00	2.95	.33	-.58	12.00	3.00	15.00
	10	9	9.00	3.09	-	-	10.00	5.00	15.00
Perceived cultural values	7				.06	1.26			0
	5.34	6.00	6.00	1.89	.58	-.10	8.00	2.00	10.00
Empowerment									0

In Table 4.3, the statistical output about Emotion & Behaviour is summarized. Concerning the variable Emotion & behaviour, Body Evaluation, Personal

characteristics, Appearance important in the future, Perceived social support, Priority of health, Appearance in social interaction, Perceived cultural values, Empowerment were analysed. It is found that in the total score of body image in mean is 178.48 and S.D is 23.95. It shows the students have negative score because the higher score it will be in negative range , if the score is less it will be in positive body image.

**Table 4.4 :** Summary of 't' test for the Body Image(N=56)

	<b>t</b>	<b>df</b>	<b>Sig. (2-tailed)</b>	<b>Mean Difference</b>	<b>Std. Error Difference tailed)</b>
Total score	-1.93	54	.06	-12.09	6.25
	-1.91	46.25	.06		6.33

The data was analysed with the help of t-test and the results are given in table 4.4

From table 4.4 it can be seen that after finding t value in the table , using 25 degrees of freedom at 0.5 Significance alpha level the t table value 0.6.

The calculated t value is lesser than the t table value at alpha level 0.05. the table tvalue is greater than t value at alpha level  $p > 0.05$ .

Thus, after the comparison of t- test value of physical education and computer science students it is seen there is no significant difference found in the both subject students.

### **Hypothesis Testing:**

**HO-** There will be no significant difference between physical education students and computer science students on physical literacy and body image girls from Pearl Drop School.

Table 4.2 it can be seen that after finding t value in the t table is greater than t value thus no significant difference was found.

Thus, HO is accepted.

### **Major Findings:**

#### **1. Physical Literacy**

- **Motivation** : There is no significance difference between physical education & computer science students.
- **Confidence** : There is no significance difference between physical education & computer science students.



- **Competence:** There is no significance difference between physical education & computer science students.
- **Knowledge & Understanding:** There is no significance difference between physical education & computer science students.

**2. Body Image :** There is no significance difference between physical education & computer science students.

## **Discussion:**

Students who excel in sports have chosen to pursue computer science, while others have chosen subjects based on their interest or to achieve high marks in the X board exams. This indicates that their subject choices are influenced by factors other than physical literacy components like motivation, confidence, competence, knowledge, understanding, and body image, as the study found no significant differences in these areas. However, the study did reveal a high prevalence of negative body image among girls in the IX-X grades.

The result of the study of Overview of Body Image. Body image is generally considered a multidimensional construct, covering cognitive, affective, and behavioural dimensions Development and validation of the body image scale for youth (Sara JalaliFarahani, Parisa Amiri, Fariba Zarani, Farid Zayeri and Fereidoun Azizi. Definition and assessment of physical literacy in children and adolescents (DanDan Ke, Koya Suzuki, Hidetada Kishi, Yusuke Kurokawa, Shaoshuai Shen, 2022). It shows the similar results of physical literacy and body image by different researchers over the world.

In the study comparing physical education and computer science students regarding physical literacy and body image among IX-X grade girls, the lack of significant differences could be attributed to a lack of awareness or attention given to these aspects.

## **Conclusion:**

The research findings suggest that there is no significant difference between physical education students and computer science students concerning physical literacy and body image across various components. Specifically, when considering physical literacy, encompassing motivation, confidence, competence, knowledge, and understanding, both groups exhibited similar levels of proficiency. Similarly, in terms of body image, encompassing nine components such as emotion and behaviour, body evaluation, personal characteristics, and others, no notable distinction was

observed between the two student groups.

However, it is crucial to note that there is a concerning trend indicating a shift towards negative body image among girls, marked as very poor. This underscores the urgent need to address body image issues, particularly among female students. The research underscores the potential of leveraging physical literacy interventions delivered through physical education from an early stage to promote positive body image and holistic well-being among students. By integrating targeted strategies within educational frameworks, we can work towards improving body image perceptions, especially among vulnerable populations, contributing to healthier self-perceptions and overall well-being.

### **Recommendation:**

- It is recommended that research shall be implemented to the study the physical literacy and body image of adolescence girls from the ground level to see the positive changes in the result.
- There should be theory class for Physical Education once in a week to have a better or positive changes on their lifestyle.
- Provide opportunities for girls to develop a variety of physical skills and competencies. Offer classes or clubs in dance, martial arts, yoga, or other activities that promote body awareness, strength, flexibility, and coordination.
- Promote self-care practices such as mindfulness, relaxation techniques, and positive self-talk. Help girls cultivate a positive relationship with their bodies by emphasizing self-acceptance, gratitude, and self-care routines.
- Create a supportive and non-judgmental environment where girls feel comfortable participating in physical activities. Encourage positive peer interactions and discourage body shaming or bullying.
- Invite female athletes or fitness enthusiasts to share their experiences and insights with the students. Seeing strong and confident women of different body types can inspire girls to embrace their own bodies and pursue physical activities with enthusiasm.
- Conduct workshops or seminars focusing on physical literacy and body image. Include discussions on the importance of a healthy and active lifestyle, understanding body diversity, and challenging societal beauty standards.
- Offer a diverse range of physical activities in physical education classes that cater to various interests and abilities. Emphasize enjoyment and skill development rather than competition or appearance

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