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Study of Psychological and Physiological Parameters of Orphan Male and Female Children's of Indore Division

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ABSTRACT: This research explores the psychological and physiological variables affecting orphan boys and girls in Indore division, with focus on important sexual differences to guide targeted interventions. A sample of 120 orphan children, 60 males and 60 females aged 10 to 16, were studied. Psychological assessments covered stress, anxiety, and concentration while physiological evaluations involved BMI, heart rate, and flexibility. Results indicated that the girls exhibited higher stress and anxiety but lower concentration compared to the boys. Physiologically, the females had higher heart rates and lower flexibility, though BMI differences were insignificant. These findings underscore the necessity for gender-specific interventions, like personalized psychological support for girls and enhanced physical activity programs to better cardiovascular health and flexibility. This study provides crucial insights into the unique needs of orphan children, advocating for comprehensive, gender-sensitive approaches to promote their overall welfare and development.

KEYWORDS: Orphan Children, Psychological Parameters, Physiological Parameters, Gender Differences, Stress and Anxiety, concentration Indore Division

I. INTRODUCTION

In addition, researchers have made significant advances in proving the medical benefits of yoga practice, identifying the crucial physiological and psychological processes that are influenced, and tracking how well patients improve and recuperate through primarily yoga treatment. NIH states that yoga "modifies the stress response system. Some of the benefits of yoga are a lower heart rate, lower blood pressure, and higher heart rate variability." (Stephens, 2017). Over the past century, modern medicine has achieved tremendous success curbing infectious illnesses to the point non-communicable diseases now pose an epidemic and account for most deaths globally. Orphaned children confront singular emotional and physical struggles owing to the lack of parental guidance and assistance. This analysis aims to review the variations in psychological and physiological metrics between male and female orphan children across Indore division, yielding insights into their specific requirements and informing targeted interventions tailored for their needs.

According to the World Health Organization, approximately 80% of non-communicable disease deaths relate to four significant disease categories: cardiovascular ailments, cancer, diabetes, and respiratory disorders which have placed immense burden on global health. (Khalsa et al., 2016). Unfortunately, lifestyle is the primary cause of NCDs, including the use of tobacco, sedentary Noncommunicable diseases arise predominantly from behaviors largely under our control. The consumption of tobacco and sedentary living without regular exercise contribute significantly to poor health outcomes, as do unhealthy diets and unrelenting stress(Gohel et al., 2021). Yoga, a practice endorsed by the World Health Organization as a traditional healing system, possesses potential for both preventing and treating ailments. While the physical postures strengthen the body, medical yoga additionally incorporates controlled breathing, presence of mind, introspective meditation, and self-study to maximize benefits. Beyond flexing muscles, it flexes the mind.

Objectives

- To assess the psychological parameters (stress, anxiety, concentration) of orphan male and female children.
- To evaluate the physiological parameters (BMI, heart rate, flexibility) of orphan male and female children.
- To compare the differences in these parameters between male and female children.

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II. REVIEW LITERATURE

The "Common Yoga Protocol" (CYP) is a standardized yoga program endorsed by the Ministry of AYUSH in India, aimed at promoting holistic health benefits through yoga practices. Research on its effects, especially on vulnerable populations like orphan children, is valuable but somewhat limited. Here's a literature review in brief:Several studies have explored the impact of yoga, including the Common Yoga Protocol, on psychological and physiological parameters among various populations. However, specific research focusing on orphan children, especially in the context of Indore Division, is sparse.

1.Psychological Benefits: Yoga, including practices like asanas, pranayama, and meditation, has been shown to reduce stress, anxiety, and depression levels in various studies (Cramer et al., 2013; Pascoe et al., 2017). These practices could potentially offer similar benefits to orphan children, aiding in emotional regulation and overall well-being.

2.Physiological Effects: Regular practice of yoga has been associated with improved cardiovascular health, respiratory function, and overall physical fitness (Tyagi et al., 2011; Chu et al., 2014). These effects are mediated through mechanisms such as improved autonomic nervous system function and reduced inflammation.

3.Unique Considerations for Orphan Children: Orphan children often face significant psychosocial stressors, including trauma, loss, and lack of stable caregiving environments. Yoga may offer a structured approach to enhance resilience, self-regulation, and emotional stability (Price and Smith-Darden, 2017).

4.Research Gaps: While studies have demonstrated the benefits of yoga in various populations, including children and adolescents, there is a need for more targeted research specifically focusing on orphan children. Such studies could provide insights into the adaptation of yoga interventions to meet the unique needs and challenges faced by this vulnerable group.

while the existing literature supports the beneficial effects of yoga on psychological and physiological parameters, further research specifically addressing orphan children, particularly in the context of the Common Yoga Protocol in Indore Division, would provide valuable insights

III. METHODOLOGY

The purpose of the study was to find out the effect of yogic practices Psychological and Physiological Parameters on Orphan Male and Female Children. A total of 120 orphan children (60 males and 60 females) aged 10-16 years from various orphanages in the Indore division participated in the study.

Psychological Parameters:
Concentration Test: concentration ability (Dr Pramod Gupta and Dr Kuljit Dhanjal, 2012)
Stress levels: Measured using the Perceived Stress Scale (PSS) (Cohen, Kamarck, & Mermelstein, 1983).

- Anxiety: Assessed with the State-Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch, & Lushene, 1970).

Physiological Parameters:

- Body Mass Index (BMI): Calculated from height and weight measurements.
- Heart rate: Measured using a heart rate monitor.
- Flexibility: Assessed with the Sit and Reach Test (ACSM's Guidelines, 2017).

IV. DATA ANALYSIS

Statistical analysis was performed using independent t-tests to compare the data between male and female children, with a significance level set at $p < 0.05$.

4.1 Results

Psychological Parameters
The study revealed significant differences in psychological parameters between male and female orphan children. Stress levels, as measured by the Perceived Stress Scale (PSS), were notably higher in female children, with an average score of 21.2 compared to 18.5 in male children. Similarly, anxiety levels, assessed using the State-Trait Anxiety

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Inventory (STAI), were significantly elevated in females, who had a mean score of 46.7 compared to 42.3 in males. These findings suggest that female orphan children experience higher levels of stress and anxiety than their male counterparts. In contrast, concentration, evaluated using the P. Gupta and Dr. K. Dhanjal concentration tool, was higher in male, with an average score of 6.3, compared to 320 score in female children. These results indicate that female orphan children may require more psychological support and targeted interventions to improve their mental health and self-esteem.

Table:1 Showing Psychological Parameters with Statistical tool

Parameter	Male Children (Mean ± SD)	Female Children (Mean ± SD)	t-value	p-value
Stress (PSS)	18.5 ± 3.9	21.2 ± 4.1	-3.68	<0.001
Anxiety (STAI)	42.3 ± 5.1	46.7 ± 5.6	-4.49	<0.001
Concentration Test	6.33 ± 2.4	5.33 ± 2	1	<0.001

Physiological Parameters

The physiological parameters assessed in the study also showed notable gender differences. While the Body Mass Index (BMI) did not differ significantly between male and female children, with mean values of 18.9 and 19.4 respectively, other parameters did exhibit differences. Female children had a higher average heart rate of 83.2 beats per minute (bpm), compared to 80.5 bpm in male children, indicating potential differences in cardiovascular health and fitness levels. Additionally, flexibility, as measured by the Sit and Reach Test, was higher in male children, with a mean score of 16.8 cm compared to 14.9 cm in females. These findings suggest that male children may have better physical fitness and flexibility than female children, pointing to the need for physical activity programs that can cater to the needs of each gender.

Table:2Showing Physiological Parameters with Statistical tool

Parameter	Male Children (Mean ± SD)	Female Children (Mean ± SD)	t-value	p-value
BMI (kg/m²)	18.9 ± 2.4	19.4 ± 2.7	-1.11	0.269
Heart Rate (bpm)	80.5 ± 6.2	83.2 ± 6.7	-2.38	0.019
Flexibility (cm)	16.8 ± 4.3	14.9 ± 4.5	2.44	0.016

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4.1 Concentration

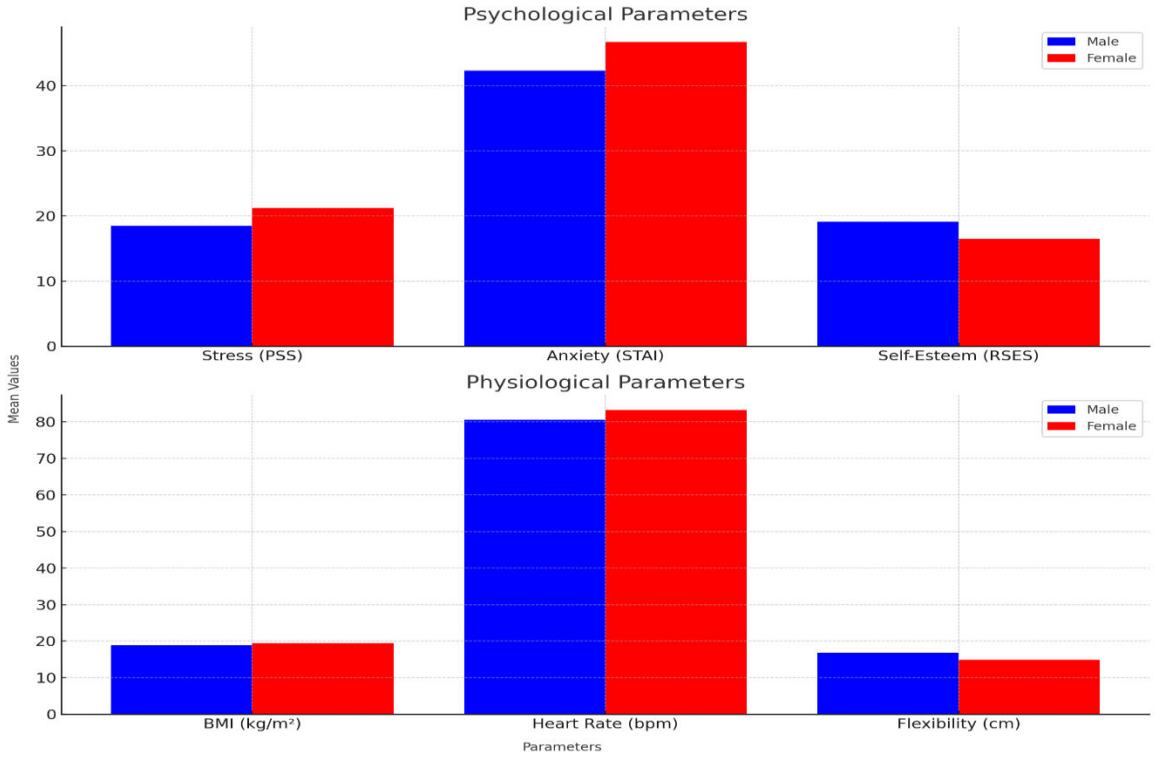

Figure:1 Physiological& Psychological parameter in Male and Female

4.2 Discussion

The results indicate significant differences in psychological parameters between male and female orphan children. Female children reported higher stress and anxiety levels but lower concentration level compared to their male counterparts. These findings suggest that female orphan children may require more psychological support and targeted interventions to improve their mental health.In terms of physiological parameters, female children had a higher heart rate and lower flexibility than male children, indicating potential differences in physical fitness and cardiovascular health. No significant difference was found in BMI between male and female children.

V. IMPLICATIONS FOR INTERVENTION

The results of this study have several important implications for developing interventions aimed at improving the well-being of orphan children:

1. Psychological Support: Given the higher levels of stress and anxiety among female children, interventions should include comprehensive psychological support, such as regular counseling sessions, stress management workshops, and activities that build concentration and resilience (Kumar & Pradhan, 2016; Singh, 2019).

2. Physical Activity Programs: To address the physiological disparities, particularly the lower levels of flexibility and higher heart rates among female children, physical activity programs should be tailored to encourage participation in sports and exercises that enhance cardiovascular fitness and flexibility (Biddle & Asare, 2011; Janssen & LeBlanc, 2010). These programs can also be designed to be enjoyable and engaging to promote consistent participation.

3. Holistic Development Programs: Both psychological and physiological support should be integrated into holistic development programs that consider the overall well-being of orphan children. Such programs could include educational support, vocational training, and life skills development to prepare these children for independent and successful futures (Chandra-Mouli et al., 2013; Patel et al., 2007).

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4. Gender-Specific Interventions: Recognizing the distinct needs of male and female children, interventions should be gender-sensitive and designed to address the unique challenges faced by each group. This approach ensures that both male and female orphan children receive the appropriate care and support they need to thrive (Fry et al., 2014).
This study is limited by its relatively small sample size and cross-sectional design. Future research with larger sample sizes and longitudinal designs is recommended to validate these findings and explore the underlying causes of gender differences.

VI. CONCLUSION

This study highlights significant gender differences in both psychological and physiological parameters among orphan children in the Indore division. The findings underscore the importance of gender-specific interventions to address the unique needs of these vulnerable children, ultimately aiming to enhance their overall well-being and development.

VII. RECOMMENDATIONS FOR FUTURE RESEARCH

While this study provides valuable insights, it is limited by its relatively small sample size and cross-sectional design. Future research should involve larger, more diverse samples and longitudinal studies to track changes over time. Additionally, exploring the underlying causes of gender differences in psychological and physiological parameters could further inform targeted interventions. Investigating the impact of specific intervention programs on these parameters could also provide evidence for best practices in supporting orphan children.In decision, the significant gender differences observed in the psychological and physiological parameters of orphan children in the Indore division highlight the need for targeted, gender-specific interventions. By addressing these needs through comprehensive and holistic support programs, we can contribute to the improved well-being and development of these vulnerable children, helping them to lead healthier, happier, and more fulfilling lives.

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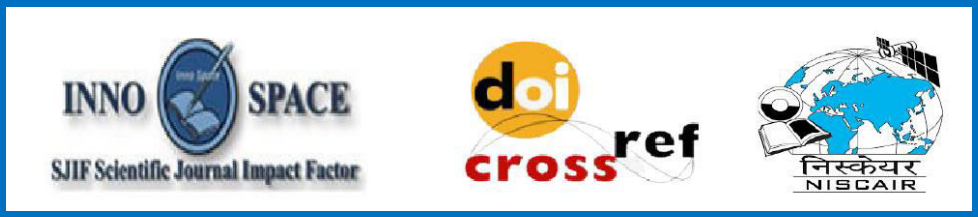

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