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A COMPARATIVE STUDY OF PHYSICAL AND PSYCHOLOGICAL SYMPTOMS AND ANXIETY LEVELS AMONG MIDDLE-AGED SWIMMERS AND NON-SWIMMERS

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Abstract: The present study examined differences in anxiety between swimmers and non-swimmers in the age group of 24–30 years. A total of 185 participants, including 69 swimmers and 116 non-swimmers, were selected for the study. Anxiety levels were assessed using a standardized psychological anxiety scale. Mean scores, standard deviations, and the t-ratio were computed to determine group differences. Results revealed that non-swimmers demonstrated higher mean anxiety scores (M = 12.56, SD = 1.65) compared to swimmers (M = 10.31, SD = 1.35). However, the calculated t-ratio (t = 2.28) did not reach the level of statistical significance at the prescribed level, indicating no significant difference in anxiety between the two groups. Despite the lack of statistical significance, the findings suggest that participation in swimming may be associated with lower anxiety levels. The study highlights the potential psychological benefits of swimming and underscores the importance of physical activity in mental health promotion.

Keywords: Anxiety, Psychological Problems, Swimmers, Non-Swimmers, Physical Activity

INTRODUCTION

Anxiety is one of the most commonly studied psychological variables in sports psychology due to its strong influence on performance, well-being, and overall mental health. Martens, Vealey, and Burton (1990) defined competitive anxiety as a state characterized by feelings of apprehension, tension, and nervousness that arise from an individual's perception of a situation as threatening. In the sporting context, anxiety is often viewed as a negative factor that interferes with concentration, coordination, and performance efficiency (Duda, 1998).

Previous research indicates that anxiety acts as a major psychological barrier to optimal athletic performance (Cox, Qiu, & Liu, 1993; Singh 2020). As a result, several studies have focused on identifying coping strategies to reduce anxiety among athletes, including relaxation techniques, cognitive restructuring, and physical activity interventions (Humara, 2001; Richards, 2004;Singh 2020a).

Swimming is widely recognized as an effective physical activity for stress reduction and psychological well-being. The rhythmic breathing patterns and repetitive movements involved in swimming stimulate the parasympathetic nervous system, which is responsible for relaxation and recovery. Moreover, swimming is a vigorous aerobic exercise capable of burning approximately 400 calories in 30 minutes, thereby contributing to both physical fitness and mental health.

Despite extensive literature on anxiety among athletes, limited empirical evidence exists comparing anxiety levels between swimmers and non-swimmers within the same age group. Therefore, the present study aimed to analyze psychological problems with respect to anxiety among swimmers and non-swimmers aged 24–30 years.

METHODS

The sample consisted of 185 individuals aged between 24 and 30 years. Among them, 69 participants were swimmers and 116 participants were non-swimmers. Participants were selected using a purposive sampling technique. Anxiety was measured using a standardized psychological anxiety scale with established reliability and validity.The questionnaire was administered to all participants under standardized conditions. Clear instructions were given, and confidentiality was assured. Completed responses were scored as per the guidelines of the scale. Descriptive statistics (Mean and Standard

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Deviation) were calculated to assess anxiety levels. An independent samples t-test was employed to determine whether a significant difference existed between swimmers and non-swimmers.

RESULTS AND DISCUSSION

TABLE –1.

DEMOGRAPHIC INFORMATION OF SWIMMERS

Sr.No.	Demographic information of Swimmers	Percentage (%)
1	Shortness of breath	14.89%
2	Sweating (some time)	10.50%
3	Intrusive thoughts	06.77%
4.	Restlessness	12.90%
5	Headache (some time)	06.10%
6	Poor concentration	22.00%

The table presents the prevalence of selected physical and psychological symptoms among swimmers, expressed in percentages. It shows that 14.89% of swimmers reported experiencing shortness of breath, indicating occasional respiratory discomfort during daily activities or training. Sweating (sometimes) was reported by 10.50% of participants, reflecting moderate autonomic or physical responses.

Psychological symptoms were comparatively less frequent. Intrusive thoughts were reported by 6.77% of swimmers, suggesting a relatively low occurrence of unwanted or distressing thoughts. Restlessness was experienced by 12.90% of swimmers, indicating mild levels of agitation or difficulty in relaxation. Additionally, headache (sometimes) was reported by 6.10% of participants, pointing toward a low prevalence of intermittent physical discomfort.

Notably, poor concentration was reported by 22.00% of swimmers, representing the most common issue within this group and highlighting a cognitive concern that may affect academic or performance outcomes.

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FIGURE –1. DEMOGRAPHIC INFORMATION OF SWIMMERS

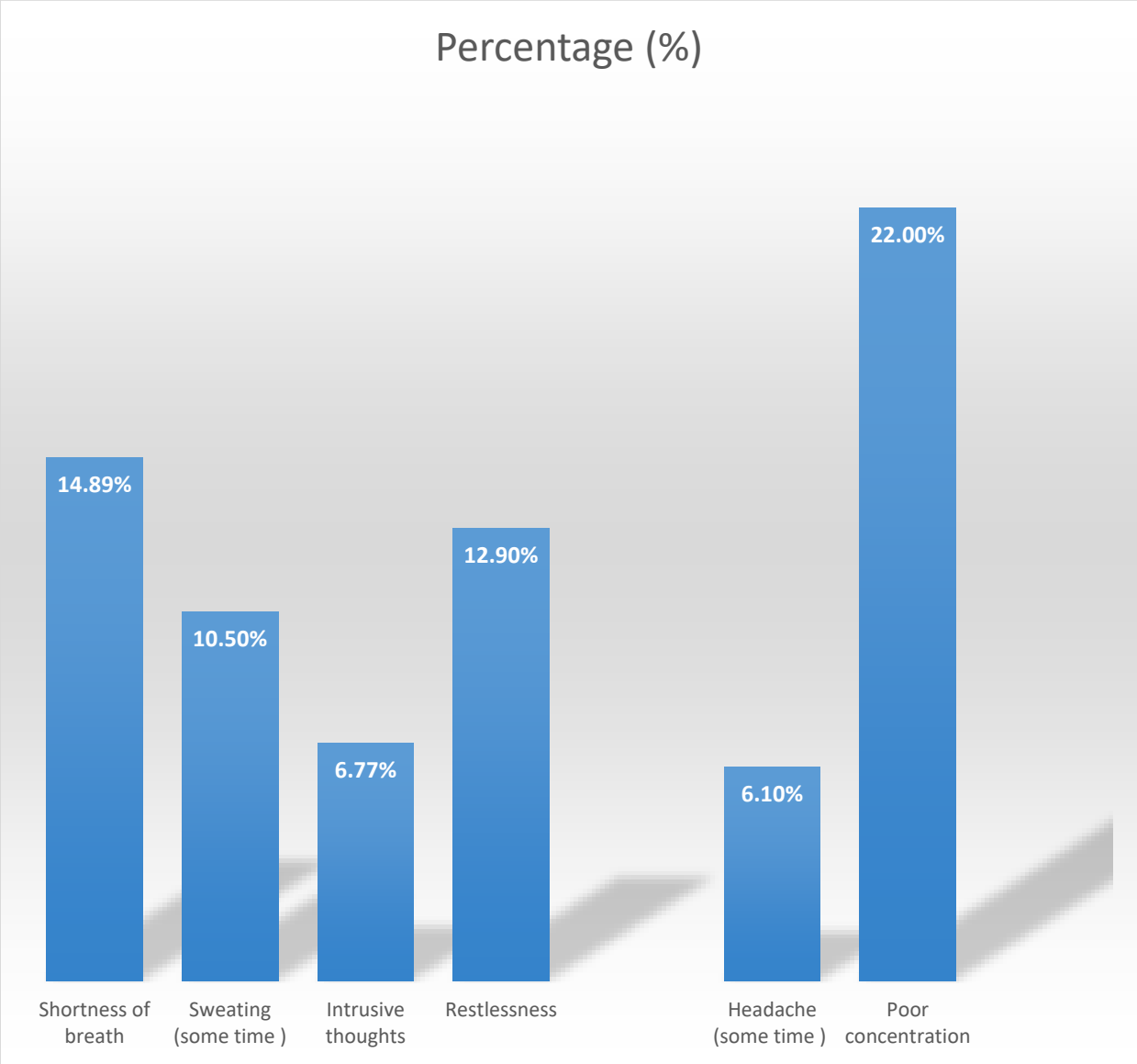

Table-2 DEMOGRAPHIC INFORMATION OF NON-SWIMMERS

Sr.No.	Demographic information of Non-Swimmers (Sometimes)	Percentage (%)
1	Shortness of breath	16.60%
2	Sweating	12.33%
3	Intrusive thoughts	10.67%
4.	Restlessness	15.80%
5	Headache	10.55%
6	Poor concentration	20.88%

The table presents the selected physical prevalence of and psychological symptoms reported *sometimes* by non-swimmer participants, expressed in percentages. It indicates that 16.60% of non-swimmers experienced shortness of breath, suggesting a slightly higher occurrence of respiratory discomfort compared to physically active groups. Sweating was reported by 12.33% of participants, reflecting moderate physiological stress or exertion.

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Psychological symptoms were more pronounced among non-swimmers. Intrusive thoughts were reported by 10.67%, indicating a notable presence of unwanted or distressing thoughts. Restlessness was experienced by 15.80% of non-swimmers, suggesting increased levels of agitation or difficulty in relaxation. Additionally, headache was reported by 10.55% of participants, pointing to a higher prevalence of intermittent physical discomfort.

Cognitive difficulties were also evident, with 20.88% of non-swimmers reporting poor concentration, making it one of the most common issues in this group.

Figure-2 DEMOGRAPHIC INFORMATION OF NON-SWIMMERS

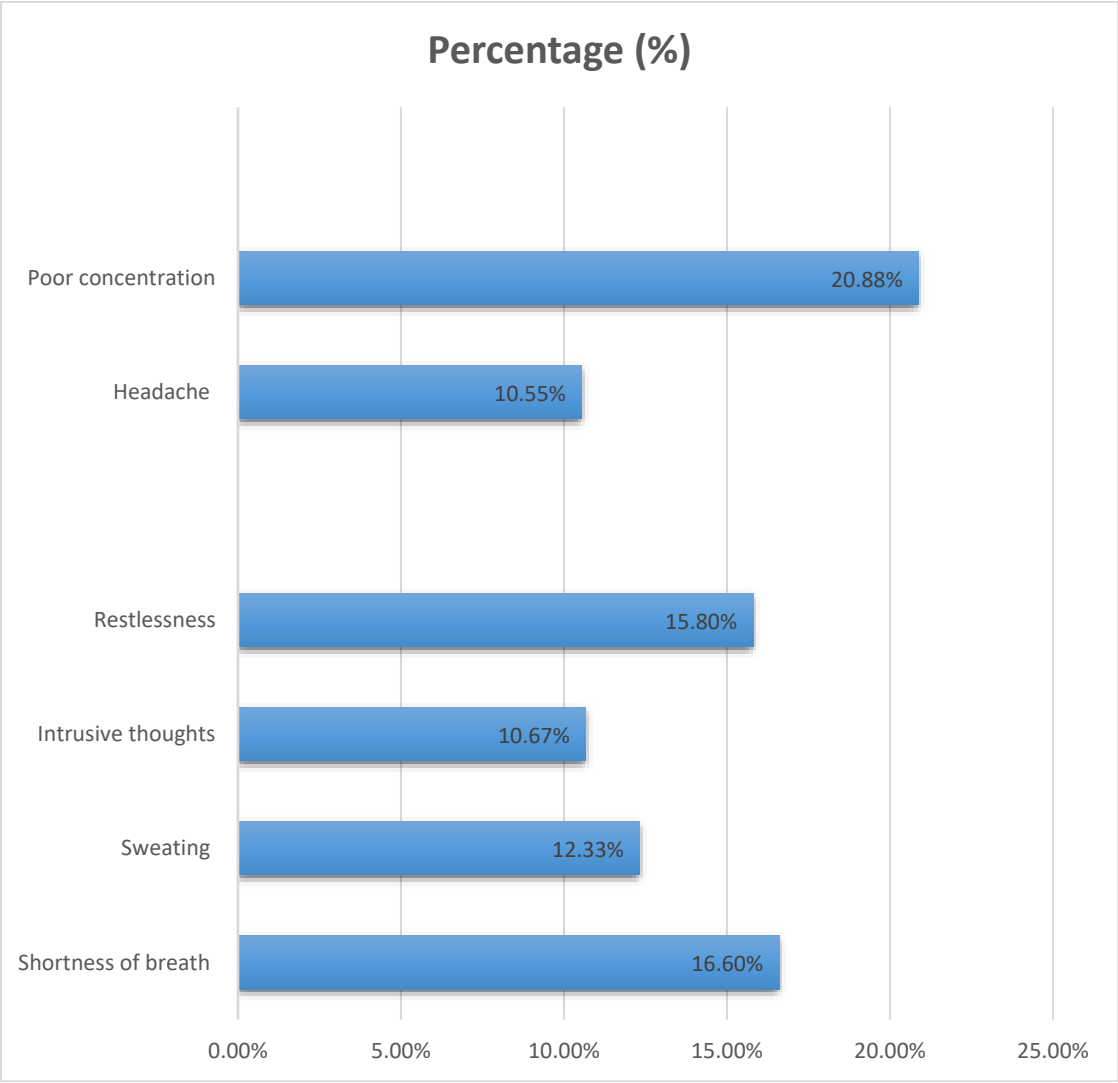

TABLE – 3
MEAN SCORES , STANDARD DEVIATIONS AND T-RATIO OF THE PSYCHOLOGICAL PROBLEM WITH RESPECT TO ANXIETY BETWEEN SWIMMERS AND NON-SWIMMERS

Sr. No.	Psychological Problem	Sample	No.	Means	SDs	T-ratio
1.	Anxiety	Swimmers	69	10.31	1.35	2.28 *
		Non-Swimmers	116	12.56	1.65	

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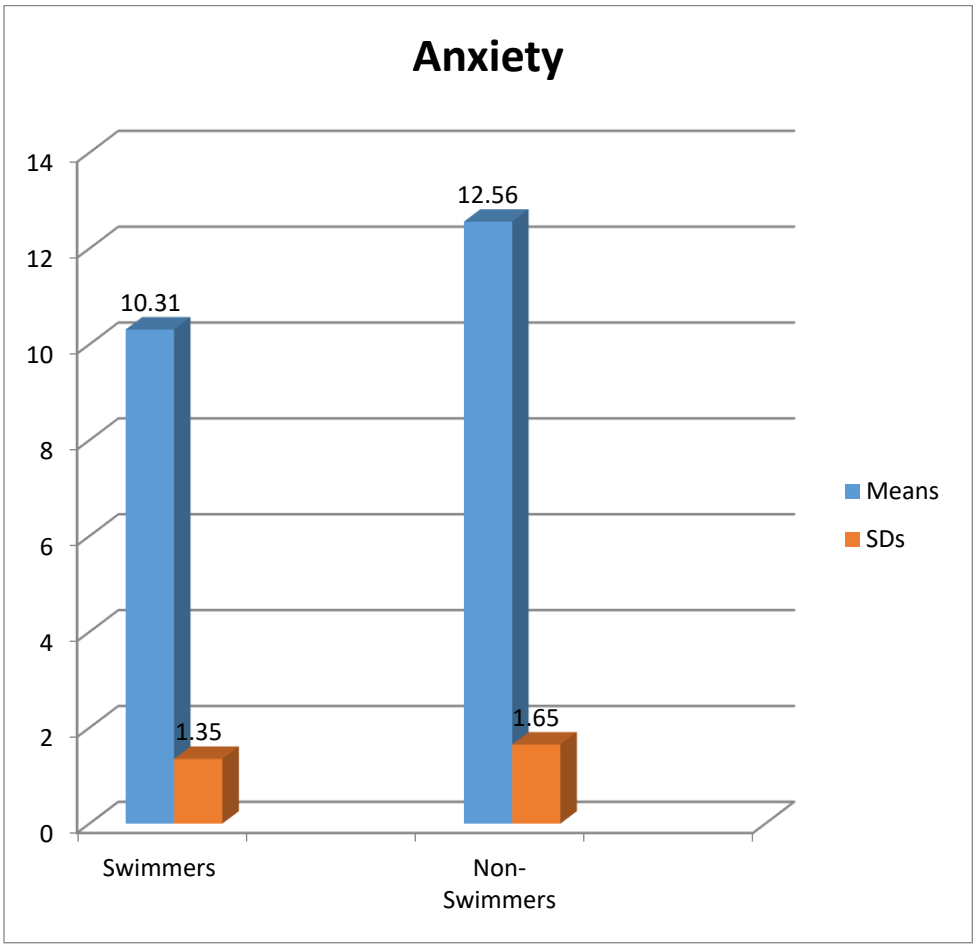
Table–3-presents the mean scores and standard deviations of psychological problems with respect to anxiety among swimmers and non-swimmers in the age group of 24–30 years. The mean score (MS) of psychological problems related to anxiety for swimmers (SWM) aged 24–30 years was **10.31**, whereas the mean score (MS) for non-swimmers of the same age group was **12.56**. The standard deviation (SD) for swimmers was **1.35**, while the standard deviation (SD) for non-swimmers was **1.65**, respectively.

The results presented in Table–3 reveal that **no significant difference** was found in psychological problems with respect to anxiety between swimmers and non-swimmers in the age group of 24–30 years. However, the findings of the study indicate that non-swimmers aged 24–30 years exhibited comparatively higher levels of psychological problems related to anxiety than their swimmer counterparts.

The mean scores (MS) and standard deviations (SDs) of psychological problems with respect to anxiety between swimmers and non-swimmers aged 24–30 years are presented graphically in **Figure–3**.

Figure: 3- The Mean scores (MS) and Standard deviations (SDs) Psychological problem with respect to Anxiety between Aged group (24-30) Swimmers and Non-Swimmers



DISCUSSION

The findings of the present study revealed no statistically significant difference in anxiety levels between swimmers and non-swimmers in the age group of 24–30 years. Nevertheless, non-swimmers showed comparatively higher anxiety scores than swimmers. This trend supports existing literature suggesting that regular participation in physical activities, particularly swimming, may contribute to reduced anxiety levels.

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Swimming involves rhythmic breathing and continuous movement, which are known to activate relaxation responses in the nervous system. These physiological effects may help swimmers manage stress and anxiety more effectively than non-swimmers. The results align with previous research indicating that physical activity serves as an effective coping mechanism for anxiety reduction (Cox et al., 1993; Humara, 2001, Singh 2019; Singh, 2020b).

Although the difference was not statistically significant, the observed trend emphasizes the potential psychological advantages of swimming and highlights its role in mental health promotion. The results indicates that swimmers generally exhibit a lower prevalence of physical and psychological symptoms; however, issues such as poor concentration and occasional respiratory discomfort remain present and warrant attention. These findings suggest the importance of monitoring both physical recovery and mental focus even among physically active individuals like swimmers.

LIMITATIONS OF THE STUDY

1. The study was limited to a single age group (24–30 years), restricting generalizability.
2. Anxiety was measured using a self-report questionnaire, which may involve response bias.
3. The study did not control for confounding variables such as lifestyle, occupational stress, or previous mental health history.
4. The sample size of swimmers was relatively smaller compared to non-swimmers.

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