



# Perceived Stress Among Football Players: A Regional Comparison Between Pondicherry And Kerala

<sup>1\*</sup>Amitlal S, <sup>1\*</sup>Aakash M Tom, <sup>2\*</sup>Husaif Karimpanattayil Abdulkader, <sup>2\*</sup>Bindhu. S, <sup>2\*</sup>Mathew Issac

<sup>1</sup>PG Graduate, <sup>1</sup>Research Scholar, <sup>2</sup>Research Scholar, <sup>2</sup>Assistant Professor, <sup>2</sup>Associate Professor

<sup>1</sup> Pondicherry University, Pondicherry, India,

<sup>1</sup> Pondicherry University, Pondicherry, India.

<sup>2</sup> Pondicherry University, Pondicherry, India,

<sup>2</sup> Department of Physical Education, Sri Vyasa NSS College, Wadakkanchery, India,

<sup>2</sup> Department of Physical Education, Mar Dionysius College, Pazhanji, India.

## Abstract

**Background:** Stress is inevitable in competitive sports, significantly impacting athletes' performance and mental well-being. This study examines the perceived stress levels among football players from Pondicherry and Kerala, focusing on regional differences, level of achievement, playing position, and residential location.

**Methods:** This study included 64 football players (31 from Pondicherry and 33 from Kerala). Data were collected using the Perceived Stress Scale (PSS) via Google Forms. Participants were categorised based on their level of achievement, playing position, and residential status. Statistical analyses, including ANOVA and post hoc tests, assessed variations in perceived stress levels.

**Results:** The findings indicate that Kerala football players experience significantly lower perceived stress levels than Pondicherry football players. Regional differences in infrastructure, training facilities, and support systems contribute to this disparity. Additionally, defenders reported the highest stress levels, while forwards exhibited lower stress. Players from urban areas experienced greater stress than those from rural and semi-urban locations.

**Conclusion:** The study highlights the impact of regional differences on perceived stress among football players, emphasising the need for improved support structures in emerging football regions like Pondicherry. Targeted interventions focusing on mental resilience training, enhanced infrastructure, and psychological support can help mitigate stress and optimise player performance.

**Keywords:** Perceived stress, football players, regional comparison, sports psychology.

## INTRODUCTION

Stress is an inevitable and multifaceted phenomenon in competitive sports, with profound implications for athletes' performance, mental health, and overall well-being (Lazarus, 2000). In football, a sport that demands physical endurance and mental resilience, stress can significantly influence an athlete's ability to perform under pressure, recover from setbacks, and maintain long-term psychological health (Arnold & Fletcher, 2012). Perceived stress, defined as an individual's subjective evaluation of the stressors they encounter, has been identified as a critical factor in understanding how athletes respond to the demands of their sport (Cohen, Kamarck, & Mermelstein, 1983). For football players, who often face intense competition,

rigorous training schedules, and high expectations, managing stress is essential for achieving optimal performance and avoiding burnout (Weinberg & Gould, 2015).

The relationship between stress and athletic performance has been extensively studied across various sports, with research indicating that stress levels can vary significantly based on factors such as competition level, training intensity, and regional or cultural differences (Hanton, Fletcher, & Coughlan, 2005). Nicholls, Polman, Levy, and Backhouse (2010) studied mental toughness and stress among athletes, revealing that regional differences in training environments, support systems, and cultural expectations can lead to varying levels of perceived stress. Similarly, a study by Sarkar and Fletcher (2014) emphasised the role of psychological resilience in mitigating the negative effects of stress, highlighting the importance of understanding the unique stressors faced by athletes in different contexts.

Football is a rapidly growing sport in India, with regions like Kerala and Pondicherry emerging as significant contributors to the country's football talent pool. With its rich football culture and robust support systems, Kerala has long been a hub for the sport. The state boasts a well-established infrastructure, including academies, coaching facilities, and competitive leagues, which provide players with ample opportunities for growth and development (Mathew, 2018). In contrast, Pondicherry, though making strides in recent years, still lags in infrastructure and resources. The lack of adequate training facilities, limited exposure to competitive leagues, and fewer support systems could lead to higher levels of perceived stress among football players in this region (Kumar & Sharma, 2020).

Perceived stress is a subjective experience that varies among individuals and arises from multiple sources, including competition pressure, performance expectations, and personal goals (Weinberg & Gould, 2015). For football players, combining physical demands and mental challenges makes stress management a critical aspect of their training and performance (Arnold & Fletcher, 2012). Regional differences in training environments, cultural expectations, and support systems can significantly influence how athletes perceive and cope with stress (Nicholls et al., 2010). In Kerala, the intense football culture and well-established infrastructure may provide players with better-coping mechanisms and lower perceived stress levels. In contrast, Pondicherry's emerging football scene may expose players to higher stress due to limited resources and opportunities (Kumar & Sharma, 2020).

This study aims to explore the variations in perceived stress among football players in these two regions, examining how environmental, cultural and infrastructural factors influence their stress levels. Understanding these differences can provide valuable insight into the specific challenges faced by athletes and contribute to the development of targeted interventions to enhance mental well-being and overall performance.

## METHODOLOGY

This study aims to assess the effect of perceived stress, sports anxiety, and resilience on sports performance among football players participating in the South Zone Inter-University Tournaments. The methodology includes details on the selection of the subjects, research design and data collection, and statistical analysis.

### Selection of Subjects

This study participants were selected from Pondicherry and Kerala using purposive random sampling. The sample consisted of football players who met the inclusion criteria, including professional achievement, playing position, and residential location. Informed consent was obtained from all participants before data collection. The study did not impose gender and socio-economic restrictions in the selection process. The final Sample size was 64 football players, with 31 from Pondicherry and 33 from Kerala. The participants' ages ranged from  $M=23.96 \pm 3.04$  years. The selection criteria included players competing at various levels, including district, state, intercollegiate, interuniversity and national tournaments. The sample also accounted for different playing positions, including goalkeepers, defenders, midfielders, and forwards. Residential background was considered, and participants were categorised as belonging to urban, semi-urban, and rural areas.

## Procedure and Research Design

The study followed a cross-sectional survey design, using self-reported questionnaires to assess perceived stress among football players. Data was collected through an online survey using Google Forms, which was distributed via social media platforms and direct communication with players: the Perceived Stress Scale (PSS), a validated psychological tool, measured stress levels. Before participation, players were provided with an overview of the study's objectives and were assured of the confidentiality of their responses. The survey included a demographic information section, followed by the PSS questionnaire. Participants were required to complete the survey independently, ensuring minimal external influence on their responses. Once data collection was completed, responses were recorded in an Excel sheet for statistical analysis. The dataset was reviewed to ensure completeness and accuracy. The study adhered to ethical research guidelines, ensuring voluntary participation, anonymity, and the right to withdraw at any stage.

## Statistical Analysis

The collected data were analysed using SPSS (Statistical Package for the Social Sciences) version 25. Descriptive statistics, including mean and standard deviation, were used to summarise the demographic characteristics of the participants. Independent t-tests were conducted to compare perceived stress levels between different groups based on their state of origin, level of achievement, playing position, and residential background. A one-way ANOVA was used to examine differences in perceived stress among multiple groups categorised by level of achievement and playing position. Pearson's correlation coefficient was employed to assess the relationship between perceived stress and other psychological variables, such as sports anxiety and resilience. Additionally, multiple regression analysis was conducted to determine the predictive influence of perceived stress on sports performance. The significance level for all statistical tests was set at  $p < 0.05$ . Results were interpreted with a focus on practical implications for football players, coaches, and sports psychologists, providing insights into how stress affects performance at various competitive levels.

## Results

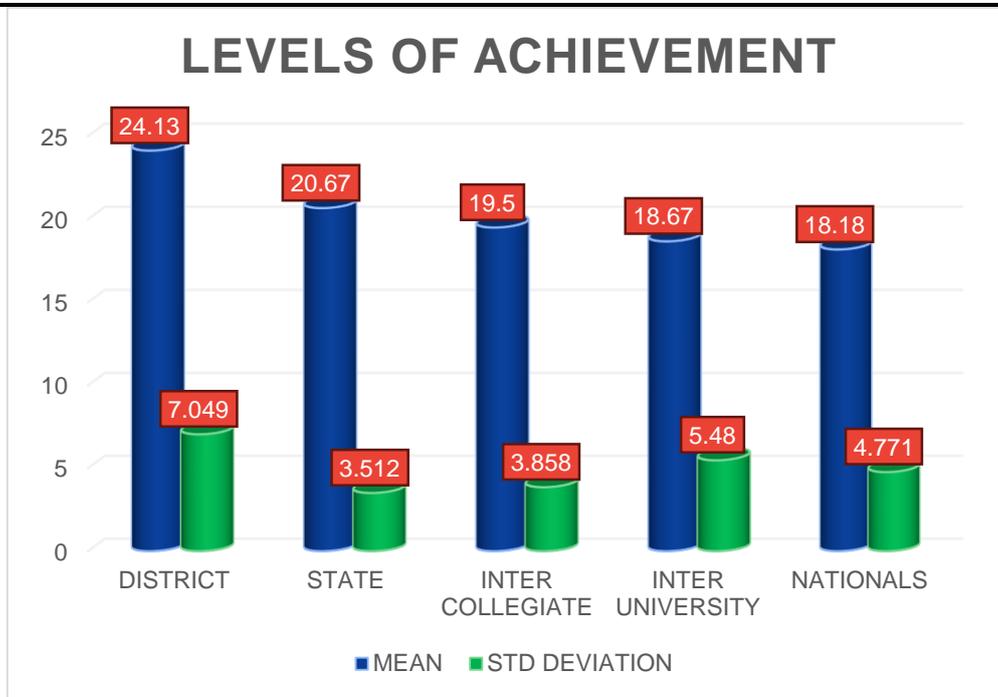
The study aimed to assess the effect of perceived stress, sports anxiety, and resilience on sports performance among football players participating in the South Zone Inter-University Tournaments. The results are presented below based on the analysis of variance and post hoc tests for multiple comparisons.

### Analyses of variance on level of achievement

|                | Sum of Squares | df | Mean Square | F     | Sig.   |
|----------------|----------------|----|-------------|-------|--------|
| Between Groups | 333.531        | 4  | 83.383      | 2.824 | 0.033* |
| Within Groups  | 1742.203       | 59 | 29.529      |       |        |

\*Significant at 0.05

The results of the one-way ANOVA indicate a significant difference in perceived stress levels among football players based on their level of achievement ( $F(4, 59) = 2.824, p = 0.033$ ). Since the significance value is less than 0.05, this suggests that players at different levels of achievement experience varying levels of perceived stress.



#### Post hoc test for multiple comparison (level of achievements)

| (I) LEVELS OF ACHIEVEMENT | (J) LEVELS OF ACHIEVEMENT | Mean Difference (I-J) | Sig.  | 95% Confidence Interval |             |
|---------------------------|---------------------------|-----------------------|-------|-------------------------|-------------|
|                           |                           |                       |       | Lower Bound             | Upper Bound |
| District                  | State                     | 3.467                 | 0.906 | -7.46                   | 14.40       |
|                           | Inter Collegiate          | 4.633                 | 0.275 | -1.79                   | 11.05       |
|                           | Inter-University          | 5.467                 | 0.078 | -.37                    | 11.31       |
|                           | Nationals                 | 5.952                 | 0.122 | -.91                    | 12.81       |
| State                     | District                  | -3.467                | 0.906 | -14.40                  | 7.46        |
|                           | Intercollegiate           | 1.167                 | 0.998 | -9.83                   | 12.16       |
|                           | Inter-university          | 2.000                 | 0.986 | -8.67                   | 12.67       |
|                           | Nationals                 | 2.485                 | 0.974 | -8.77                   | 13.74       |
| Inter Collegiate          | District                  | -4.633                | 0.275 | -11.05                  | 1.79        |
|                           | State                     | -1.167                | 0.998 | -12.16                  | 9.83        |
|                           | Inter-University          | -0.833                | 0.995 | -5.13                   | 6.80        |
|                           | Nationals                 | 1.318                 | 0.985 | -5.64                   | 8.28        |
| Inter-University          | District                  | -5.467                | 0.078 | -11.31                  | .37         |
|                           | State                     | -2.000                | 0.986 | -12.67                  | 8.67        |
|                           | Intercollegiate           | -0.833                | 0.995 | -6.80                   | 5.13        |
|                           | Nationals                 | -0.485                | 1.000 | -5.95                   | 6.92        |
| Nationals                 | District                  | -5.952                | 0.122 | -12.81                  | .91         |
|                           | State                     | -2.485                | 0.974 | -13.74                  | 8.77        |
|                           | Inter Collegiate          | -1.318                | 0.985 | -8.28                   | 5.64        |
|                           | Inter-University          | -0.485                | 1.000 | -6.92                   | 5.95        |

*\*Significant at the 0.05 level.*

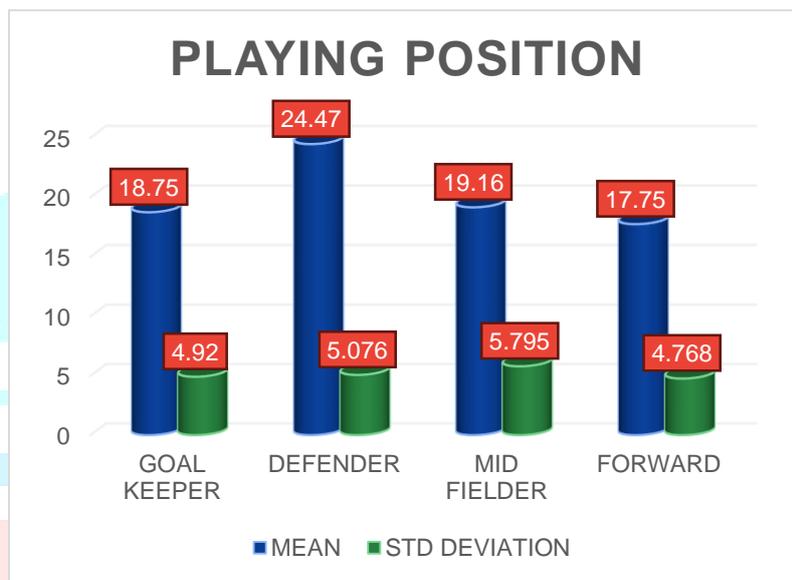
The post hoc results indicate no statistically significant differences in perceived stress levels among the various achievement levels. However, the table shows that the football players at the district level achieved the highest mean score, and the state level had a slightly lower mean score when compared to district-level football players. Football players at the intercollegiate level achieved a lower mean score when compared to state-level football players. Football players at the inter-university level had a lower mean score when compared to intercollegiate-level football players. Meanwhile, those at the national level had a lower mean score than inter-university level football players.

**Analyses of variance of the various playing position**

|                | Sum of Squares | df | Mean Square | F     | Sig. |
|----------------|----------------|----|-------------|-------|------|
| Between Groups | 451.723        | 3  | 150.574     | 5.563 | .002 |
| Within Groups  | 1624.012       | 60 | 27.067      |       |      |

*\*Significant at 0.05*

The one-way ANOVA results indicate a significant difference in perceived stress levels among players based on their playing positions ( $F(3, 60) = 5.563, p = 0.002$ ). This suggests that the playing position influences stress levels among football players.



**Post hoc test multiple comparison (Playing position)**

| (I) PLAYING POSITION | (J) PLAYING POSITION | Mean Difference (I-J) | Sig.  | 95% Confidence Interval |             |
|----------------------|----------------------|-----------------------|-------|-------------------------|-------------|
|                      |                      |                       |       | Lower Bound             | Upper Bound |
| Goalkeeper           | Defender             | -5.721*               | 0.046 | -11.36                  | -.08        |
|                      | Mid-fielder          | -.408                 | 0.997 | -5.93                   | 5.11        |
|                      | Forward              | 1.000                 | 0.968 | -4.71                   | 6.71        |
| Defender             | Goalkeeper           | 5.721*                | 0.046 | .08                     | 11.36       |
|                      | Mid-fielder          | 5.313*                | 0.033 | .32                     | 10.31       |
|                      | Forward              | 6.721*                | 0.006 | 1.51                    | 11.93       |
| Mid-fielder          | Goalkeeper           | .408                  | 0.997 | -5.11                   | 5.93        |
|                      | Defender             | -5.313*               | 0.033 | -10.31                  | -.32        |
|                      | Forward              | 1.408                 | 0.888 | -3.67                   | 6.49        |
| Forward              | Goalkeeper           | -1.000                | 0.968 | -6.71                   | 4.71        |
|                      | Defender             | -6.721*               | 0.006 | -11.93                  | -1.51       |
|                      | Midfielder           | -1.408                | 0.888 | -6.49                   | 3.67        |

*\*Significant at the 0.05 level.*

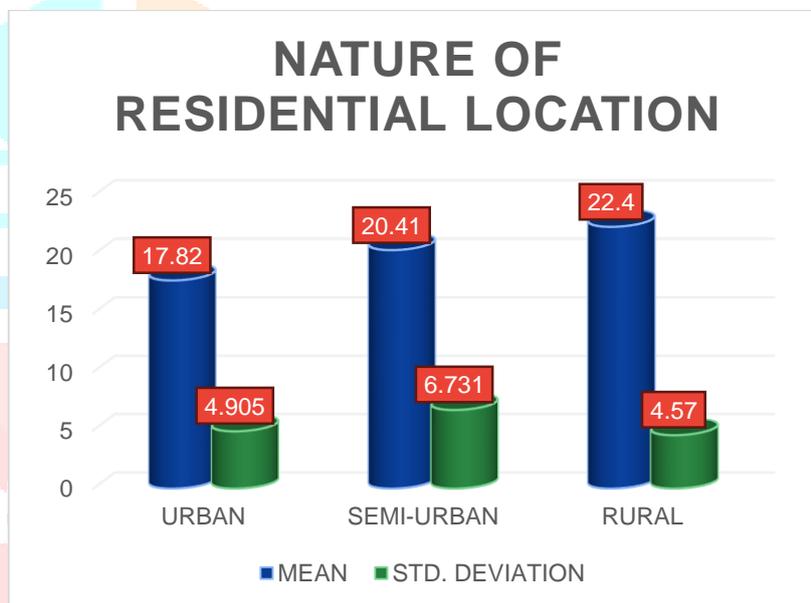
The post hoc results indicate that defenders exhibit significantly higher perceived stress levels than goalkeepers ( $p = 0.046$ ), midfielders ( $p = 0.033$ ), and forwards ( $p = 0.006$ ). There were no significant differences in stress levels among goalkeepers, midfielders, and forwards. These findings suggest that defenders experience higher stress levels, possibly due to their tactical responsibilities and defensive roles in the game.

**Analyses of variance of the nature of residential location**

|                | Sum of Squares | df | Mean Square | F     | Sig.  |
|----------------|----------------|----|-------------|-------|-------|
| Between Groups | 222.343        | 2  | 111.172     | 3.659 | .032* |
| Within Groups  | 1853.391       | 61 | 30.383      |       |       |

*\*Significant at 0.05*

The ANOVA results indicate a significant difference in perceived stress levels based on residential location ( $F(2, 61) = 3.659, p = 0.032$ ). This suggests that the residential environment may influence stress levels among football players.



**Post hoc test multiple comparison**

| (I) RESIDENTIAL STATUS | (J) RESIDENTIAL STATUS | Mean Difference (I-J) | Sig.  | 95% Confidence Interval |             |
|------------------------|------------------------|-----------------------|-------|-------------------------|-------------|
|                        |                        |                       |       | Lower Bound             | Upper Bound |
| Urban                  | Semi-Urban             | -2.591                | 0.304 | -6.76                   | 1.58        |
|                        | Rural                  | -4.582*               | 0.033 | -8.85                   | -3.1        |
| Semi-urban             | Urban                  | 2.591                 | 0.304 | -1.58                   | 6.76        |
|                        | Rural                  | -1.991                | 0.509 | -6.26                   | 2.28        |
| Rural                  | Urban                  | 4.582*                | 0.033 | 0.31                    | 8.85        |
|                        | Semi-Urban             | 1.991                 | 0.509 | -2.28                   | 6.26        |

*\*Significant at the 0.05 level.*

The post hoc analysis indicates that football players from urban areas exhibit significantly higher perceived stress levels than those from rural areas ( $p = 0.033$ ). However, there are no significant differences between semi-urban and rural players or urban and semi-urban players. These findings suggest that players from urban environments experience higher stress, potentially due to lifestyle factors such as competition, academic pressure, and environmental stressors.

## DISCUSSION

The findings of this study provide valuable insights into the perceived stress levels among football players from Pondicherry and Kerala, as well as the influence of factors such as level of achievement, playing position, and residential location. All the proposed hypotheses were accepted, revealing significant differences in perceived stress between the two regions. Below is a detailed discussion of the results. The study found that Kerala football players exhibited lower perceived stress levels than their counterparts from Pondicherry. This finding aligns with the hypothesis that regional differences in football culture, infrastructure, and support systems significantly shape athletes' psychological well-being. Kerala, with its long-standing football tradition, robust training facilities, and well-established support networks, may provide players with better coping mechanisms and resources to manage stress effectively. In contrast, Pondicherry, which is still developing its football infrastructure, may lack the same level of support, leading to higher perceived stress among its players. The analysis of perceived stress across different levels of achievement revealed that Kerala players consistently reported lower stress levels than Pondicherry players at all levels (district, state, intercollegiate, inter-university, and national). This suggests that Kerala players may benefit from a more structured and supportive environment, which helps them manage stress even as they progress to higher levels of competition. On the other hand, Pondicherry players, who may face challenges such as limited exposure to competitive leagues and fewer resources, could experience higher stress as they advance in their careers. The study also examined the relationship between playing position and perceived stress. The results indicated that Kerala players in all positions (goalkeeper, defender, midfielder, and forward) reported lower stress levels than their Pondicherry counterparts. This finding highlights the importance of regional support systems in helping players manage the unique stressors associated with their positions. For example, goalkeepers and defenders, who often bear significant responsibility during matches, may experience higher stress levels. However, Kerala players appear to handle these pressures more effectively, possibly due to better coaching, mental conditioning, and peer support.

## CONCLUSION

In conclusion, this study provides compelling evidence that Kerala football players experience lower perceived stress levels than Pondicherry players across various levels of achievement, playing positions, and residential locations. These findings highlight the importance of regional differences in shaping athletes' psychological well-being and underscore the need for targeted interventions to support players in emerging football regions. Addressing football players' unique stressors can create a more supportive and conducive environment for athletic development and performance.

## References:

- Arnold, R., & Fletcher, D. (2012). A research synthesis and taxonomic classification of the organizational stressors encountered by sport performers. *Journal of Sport and Exercise Psychology*, 34(3), 397-429.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24(4), 385-396.
- Hanton, S., Fletcher, D., & Coughlan, G. (2005). Stress in elite sport performers: A comparative study of competitive and organizational stressors. *Journal of Sports Sciences*, 23(10), 1129-1141.
- Nicholls, A. R., Polman, R. C., Levy, A. R., & Backhouse, S. H. (2010). Mental toughness in sport: Achievement level, gender, age, experience, and sport type differences. *Personality and Individual Differences*, 47(1), 73-75.
- Weinberg, R. S., & Gould, D. (2015). *Foundations of Sport and Exercise Psychology* (6th ed.). Human Kinetics.
- Cohen, S, Kamarck, T, & Mermelstein, R (1983). A global measure of perceived stress. *Journal of Health and Social Behaviour*, 24, 385–396. doi:10.2307/2136404.
- Gerber, M., Brand, S., Feldmeth, A. K., Lang, C., Elliot, C., Holsboer-Trachsler, E., & Pühse, U. (2013a). Adolescents with high mental toughness adapt better to perceived stress: A longitudinal study

with Swiss vocational students. *Personality and Individual Differences*, 54 (7), 808–814. doi: 10.1016/j.paid.2012.12.003.

- Haghghi, M., & Gerber, M. (2019). Does mental toughness buffer the relationship between perceived stress, depression, burnout, anxiety, and sleep? *International Journal of Stress Management*, 26 (3), 297–305. doi:10.1037/str0000106.
- Leung, D. Y. P., Lam, T. H., & Chan, S. S. C. (2010). Three versions of perceived stress scale: Validation in a sample of Chinese cardiac patients who smoke. *BMC Public Health*, 10, doi:513. 10.1186/1471-2458-10-513.
- Roberti JW, Harrington LN, Storch EA. Further psychometric support for the 10-item version of the perceived stress scale. *J Coll Couns*. 2006;9(2):135–147. doi:10.1002/j.2161-1882.2006.tb00100.x.
- Wahl, C. A., Gnacinski, S. L., Nai, M. M., & Meyer, B. B. (2020). Psychological predictors of perceived stress and recovery in sport. *Sport, Exercise, and Performance Psychology*, 9(3), 292–307.
- Angela, R. Starkweather. (2007). The Effects of Exercise on Perceived Stress and IL 6 Levels among older Adults. *Journal of Biological Research for Nursing*, 8(3), 186-194.
- Erin H. Sitz., & Nicholas, Poche. (1998). Gender differences in the relationship between optimism and perceived stress. Retrieved on April 4, 2008 <http://www.apa.org/releases/hirisk.html>.
- Marshall, L. L., Nykamp, D., & Allison, A. E. (2007), Perceived Stress and Health Related Quality of Life of Doctor of Pharmacy Students. Retrieved on April 4, 2008.
- Millar, M. (2005). The effects of perceived stress on reactions to messages designed to increase health behaviors. *Journal of Behavioral Medicine*, 28(5), 425-32.
- Gallagher, P. M. (2015). An examination of perceived stress and coping strategies among research university chief financial officers [Unpublished doctoral dissertation]. University of Arkansas.
- Kumar, M. V., Arathi, A., Joseph, M., Nayana, P., Jishma, E. J., & Sahana, U. (2017). Coping, perceived stress, and job satisfaction among medical interns: The mediating effect of mindfulness.

