

Identification of Factors that Affect Social Anxiety Disorder among University Students in Sri Lanka

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Abstract

The cardinal feature of social anxiety disorder (SAD) is fear of being judged, which has an impact on both the emotional and intellectual factors of their lives. Although most of the Sri Lankan undergraduates are suffering from SAD, it remains largely undiagnosed. Hence, this research aimed to assess anxiety levels and develop a prediction model to identify associated factors of SAD among Sri Lankan university students. A Google form was created using a validated questionnaire to collect data. Anxiety level was assessed using the Liebowitz social anxiety scale. Supervised machine learning methodologies were used to assess the correlations of SAD. Of the total 365 respondents, 47.95% were female, 43.29% were male and 8.77% were not revealed gender. The majority; 51.51% belonged to the 22–25-year age group. Among the participants, 78.08% of the students were found to have some form of SAD, with 38.63% experiencing severe SAD, 23.29% moderate SAD, and 16.16% mild SAD. The Random Forest Regressor, XG Boost Regressor, and Linear Regression were tested, and among them, the Linear Regression model was best fitted with the study results, achieving the lowest Root Mean Squared Error ($RMSE = 2.74 \times 10^{-14}$), indicating it performed best in terms of error measurement. According to the model, the most affected factors for SAD were age (0.305), Year of the study (0.249), University (0.173), and relationship status (0.132). The study reveals a high prevalence of SAD among Sri Lankan undergraduates, with significant correlations to age, study year, University, and relationship status. The Linear Regression model proved to be the most effective in predicting factors associated with SAD. These findings emphasize the need for targeted mental health interventions and support services for students while offering a foundation for future research in understanding and addressing SAD in this demographic.

Keywords: *Social Anxiety Disorder, Undergraduates, Associated factors, Machine Learning, Linear Regression*