The relative contribution of university Students' Perceptio of the Learning Environment and Academic Procrastination in predicting Academic self-handicapping: A comparative study using Multiple Linear regression and Machine Learning models as an application of Artificial Intelligence

Abstract

The study aimed to verify the effectiveness of using machine learning models and comparing them with the linear regression method through the contribution of Students' Perception of the Learning Environment and Academic Procrastination in predicting Academic self-handicapping for a sample of university students, numbering 437 male and female students. The following scales were applied (students' perceptions of the learning environment scale, academic procrastination scale, and Academic self-handicapping scale). The results showed that the random forest model as one of the machine learning models is better than linear regression in predicting Academic self-handicapping , as it predicted 58% and linear regression 55%. The relative importance of the predictive variables was calculated in light of the random forest model, and it was found that the most important variables in order are (wasting time, postponing tasks - students' perception of education, social self-perception - academic self-perception - student's perception of the teacher - poor planning - students' perception of the educational climate). The results were discussed and interpreted in light of the theoretical framework and previous studies.

Key Words: Students' Perception of the Learning Environment, Academic Procrastination, Academic self-handicapping, Machine Learning, Artificial Intelligence