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**Relationship between demographic factors and the misuse of drugs among the students of the Faculty of Science of the University of Kelaniya**

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Drug abuse has been identified as a global health issue. It can be identified as one of the root causes of destroying peoples' lives and souls. According to the United Nations Office of Drugs and Crime (UNODC, 2015) report, the drug abuse is a rapidly growing global problem that is a threat in all nations, with students in primary, secondary, and tertiary institutions. Considering the Sri Lankan context, findings of the past research have shown that drug usage among university students is increasing. This has a huge impact on their academic performance as well as the productivity of their lives. Many studies have been limited by considering only the consumption of alcohol and smoking. This study has explored the factors affecting the misuse of drugs among university students. The main objective of the study was to identify the relationship between demographic factors and the misuse of drugs among the students of the Faculty of Science of the University of Kelaniya. Another objective of this study was to identify the most common drug among the students and also to identify the drug usage of the students who involved in sports and part time jobs. Data were collected through an online questionnaire survey. Snowball sampling was used as the sampling technique. A descriptive analysis was performed and a binary logistic regression, Support Vector Machine (SVM), and Probabilistic Neural Network (PNN) were used to predict the drug usage. Confusion matrix was used to evaluate the best statistical model. Participants included 220 students from the Faculty of Science of the University of Kelaniya, with a mean age of 23 years (SD =1.17), ranging from 21 to 26 years. The descriptive analysis showed that male drug usage was higher than female drug usage. Also, the drug consumption of the third-year students was higher than the other students. Students whose parents were illiterate showed a higher value of drug consumption than the other students. Also, the drug usage among the students who lived in the hostel was significantly higher than the others. The model fitted using binary logistic regression showed that the male drug usage is 1.899 higher than the females. Compared to others, students engaged with sports were significantly more likely to be drug user. The drug consumption of the students who were doing a part-time job was 1.383 higher than the others. It was also revealed that the most commonly used drug is alcohol. Among the fitted models, SVM Non-Random split model showed the highest accuracy (93.1818%) in predicting drug usage. Based on the results, gender, religion, year of study, involvement of a part-time job, participation in the sports activities, financial support from bursary or mahapola, mother's education level, father's occupation, ethnicity, marital status of the parents were identified as the associated factors of the drug usage among the students. The findings of the study indicate that the young adults who are having a university education are also at risk of drug abuse. Hence it is important to take the necessary steps for prevention. The results of this study has provided justification for university administrators to plan appropriate programs, and policies that could assist students at risk of drug usage and guide students in taking correct decisions.

**Keywords:** Alcohol, Drug abuse, Drug usage, Students

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