https://doi.org/10.36315/2026inpact003
Psychological Applications and Trends 2026

THE RELATIONSHIP BETWEEN ANXIETY AND SUBSTANCE USE: A QUANTITATIVE STUDY AMONG MALTESE EMERGING ADULTS AGED 18-30 YEARS

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Abstract

Emerging adulthood represents a critical developmental period marked by heightened emotional volatility and an increasing prevalence of anxiety. During this stage, ongoing identity exploration and life transitions can intensify psychological distress and increase vulnerability to substance use, making it a peak period for the onset of both anxiety and substance use disorders. This quantitative study investigated the occurrence and severity of anxiety and substance use among young Maltese adults, while examining sociodemographic influences. A cross-sectional design was used with a convenience sample of 375 individuals aged 18–30 years. Anxiety was measured using the Generalised Anxiety Disorder scale (GAD-7), originally developed as a screening tool for generalised anxiety disorder but now widely validated as a general measure of anxiety symptom severity. Substance use was measured using the EU Drug Agency (EUDA) standard General Population Survey items on lifetime, recent, and current use, while substance use severity was measured using the Drug Abuse Screening Test (DAST-10). Just over half of the participants (51.4%) had moderate to severe anxiety scores, with 18.9% falling within the severe GAD range. In terms of substance use, 40.8% said they had used substances in the last 12-months and 27.2% in the last 30 days, with cannabis, cocaine and ketamine reported as the most commonly used substances. Among those who used substances, 8.0% and 0.8% fell within the substantial use and severe use categories, respectively. Anxiety severity and substance use severity were positively correlated with regression linear analysis, accounting for 22.8% of the variance, indicating that substance use severity was significantly predicted by anxiety severity, male gender, age (25-27 years), and relationship status (casual dating). The findings highlight the importance of early, coordinated interventions that target co-occurring anxiety and substance use to reduce risk and support healthier adjustment in young adults.

Keywords: *Anxiety, substance use, severity, emerging adulthood, Malta.*

1. Introduction

Spanning roughly ages 18 to 30, Emerging Adulthood (EA) is characterised by identity exploration, instability, self-focus, feelings of being in-between, and a heightened sense of possibility (Arnett, 2007, 2014). While these features promote growth and autonomy, they can also increase vulnerability to psychological distress and engagement in risky behaviours. Consistent with this vulnerability, global evidence identifies EA as the developmental stage with the highest prevalence of both substance use and anxiety-related disorders (Andrews & Westling, 2016; Arnett, 2016).

Epidemiological data across Europe reflect these trends, with cannabis reported as the most used illicit substance among young adults, followed by cocaine, MDMA, amphetamines, methamphetamines and an expanding range of novel psychoactive substances (European Union Drugs Agency [EUDA], 2024). Locally, recent population survey data indicate changes in substance use among younger cohorts in Malta. Alcohol use remains highly prevalent among those aged 18-29, with lifetime use exceeding 90% among this age group, reflecting sustained normative consumption. Cannabis use has increased substantially, with lifetime prevalence among 18-24-year-olds rising from 4.9% in 2001 to 15.8% in 2023, and last-year use reaching 9.3%. Younger adults also show rising continuation rates, indicating more persistent use (Ministry for Social Policy and Children's Rights, 2025).

Substance use during EA follows heterogeneous trajectories, ranging from experimental and recreational patterns to problematic and compulsive use. Although many young people desist after initial experimentation, others escalate to heavier use (Clark, 2011). Anxiety disorders, which commonly emerge in adolescence and persist into EA, are significant predictors of both the initiation and escalation of

substance use (Swendsen et al., 2010). This association highlights the importance of situating research within EA, a developmental period in which psychosocial stressors, behavioural experimentation, and mental health trajectories dynamically intersect. Furthermore, the local context remains underexplored in this regard.

2. Design and objectives

Addressing this gap and adopting a quantitative cross-sectional design, the present study examined the relationship between anxiety and severity substance use among Maltese young adults aged 18-30 years. Specifically, the research questions were:

RQ1: What is the occurrence of anxiety, substance use, and severity of substance use?
RQ2: What is the relationship between anxiety and the severity of substance use?
RQ3: How do sociodemographic factors (age, gender, education, employment, and relationship status) contribute to this relationship?

3. Methods

Following ethical approval from the University of Malta Research Ethics Committee (UREC), participants were recruited through convenience and snowball sampling. Eligibility was restricted to Maltese nationals aged 18-30. Recruitment took place via social media platforms (Facebook, Instagram) and through formal permission to distribute the survey via institutional email lists at the University of Malta and the Malta College of Arts, Science, and Technology (MCAST). Participation was voluntary, and informed consent was obtained electronically prior to survey completion. A total of 375 responses were collected. Data were analysed using SPSS (Version 29.0).

3.1. Instrumentation

The online survey, available in English and Maltese (with translation verified through a back-translation process) consisted of three sections. The first section assessed anxiety using the Generalised Anxiety Disorder-7 (GAD-7) scale (Spitzer et al., 2006). This 7-item scale, scored from 0 to 21, categorises anxiety severity as minimal (0-4), mild (5-9), moderate (10-14), and severe (15-21). The second section measured drug abuse problems and the severity of drug-related consequences using the 10-item Drug Abuse Screening Test (DAST-10; Skinner, 1982, 2023). DAST scores range from 0 (no problems) to 10 (severe problems). Both the GAD-7 (α = .88) and DAST-10 (α = .85) demonstrated strong internal consistency in the Maltese sample. Since the DAST-10 does not capture alcohol use or use of specific drugs over specific time frames, the EU Drug Agency (EUDA) guidelines for drug and alcohol use among the general population were used to assess past 12-months and past 30-day use of the most commonly consumed substances: cannabis, cocaine, ketamine, ecstasy, and lysergic acid diethylamide (LSD) and binge drinking defined as consuming more than six alcoholic drinks on a single occasion within the past 30 days (EUDA, 2002; National Drugs and Addiction Unit [NDAU], 2024). The final section of the survey collected sociodemographic information, including age, gender, education, employment, and relationship status.

4. Results

The sample comprised 375 young adults (60.0% female) aged 18-30 years (M = 23.4, SD = 3.9) and predominantly Maltese (93.9%). Nearly half of participants were students (48.0%), while 42.4% were employed full-time. Educational attainment was generally high, with most participants having completed post-secondary (32.8%) or tertiary education (61.9%), and only a small proportion reporting secondary education as their highest level (5.3%). Regarding relationship status, most participants were single (40.8%) or in a committed relationship (35.7%), followed by those casually dating (17.6%) and those who were married (5.9%).

4.1. Prevalence of anxiety among the sample

GAD-7 scores among the sample ranged from 0 to 21, with a mean score of 9.85 (SD = 5.15) and a median of 10.00, indicating mild to moderate anxiety levels on average. According to GAD-7 severity categories, 15.5% of participants reported minimal anxiety, 33.1% mild anxiety, 32.5% moderate anxiety, and 18.9% severe anxiety.

4.1.1. Substance-type and patterns of use. From the total sample, 40.8% reported using at least one drug in the past 12 months. Of these, 38.7% reported using cannabis, followed by cocaine (12.5%), ketamine (9.3%), ecstasy (8.8%), and LSD (5.9%). No participants reported using heroin. In terms of substance use in the past 30 days, cannabis use was reported by 25.1%, followed by cocaine (5.9%), ketamine (3.7%), ecstasy (2.4%), and LSD (1.3%) Binge drinking in the last 30 days was reported by 34.6% of participants.

4.2. Prevalence of severity substance use among the sample

According to the DAST-10 scoring guidelines, participants were categorised into five different groups. 56.8% had no substance use, 12.3% were in the 'low' range (scores 1-2), indicating minimal use. Additionally, 22.1% scored within the 'intermediate' range (scores 3-5), suggesting possible clinical relevance. Notably, 8.0% of the sample scored in the 'substantial' (6-8) and 0.8% in the 'severe' (9-10) ranges, associated with a higher likelihood of substance-related difficulties that warrant further clinical evaluation.

4.3. The Relationship between anxiety and severity of substance use

A Pearson correlation coefficient revealed a positive relationship between GAD-7 and DAST-10 scores, r (373) = .17, p = .001, indicating that participants who scored higher in anxiety also scored higher in substance use. A Kruskal-Wallis H test was conducted to examine differences in GAD-7 scores across DAST-10 severity categories. The results indicated a statistically significant difference, H (4, N = 375) = 14.65, p = .005. This finding suggests that anxiety levels significantly varied depending on participants' substance use severity, with higher anxiety scores observed among those with greater substance use problems. A partial correlation test was conducted to examine the relationship between GAD-7 scores and DAST-10 scores while controlling for age, gender, nationality, educational attainment, occupational status, and relationship status. The analysis revealed a statistically significant positive partial correlation, r (347) = .191, p < .001, suggesting that higher anxiety was correlated with higher substance use scores, independently of demographic factors.

4.4. The role of sociodemographic characteristics

DAST-10 scores were further examined using a general linear model including age group, gender, nationality, education, occupational status, relationship status, and GAD-7 score. The model explained 22.8% of the variance in DAST-10 scores ($R^2 = .228$), and higher GAD-7 scores significantly predicted greater problematic substance use (B = 0.43, p < .001). Male gender was the strongest predictor (B = 1.05, p < .001). Age effects were also observed: participants aged 25-27 years reported higher DAST-10 scores than those age 28-30 years (B = 0.91, p = .013), whereas those aged 18 -19 years reported lower scores (B = −1.28, p = .015). Relationship status was significant, with participants who were casually dating (B = 2.05, p < .001) or single (B = 1.19, p = .042) scoring higher than married participants. Nationality, education, and occupational status were not significant predictors.

5. Discussion

This study highlights anxiety as a significant concern among Maltese emerging adults. Over half of participants (51.4%) reported moderate-to-severe anxiety based on GAD-7 categorisation, levels that typically warrant clinical attention (Dias Lopes et al., 2020; Spitzer et al., 2006). These findings align with international evidence showing heightened anxiety during emerging adulthood, a developmental period marked by instability, identity exploration, financial strain, academic pressures and uncertainty, characteristic of early emerging adulthood (Arnett, 2004; Ichsan et al., 2024).

Substance use was also prevalent among the sample, with 43.2% reporting non-medical drug use in the past year. Cannabis was the most commonly used substance, consistent with both international trends and Malta's recent cannabis decriminalisation (EUDA, 2024; Vassallo, 2021). Use of cocaine, ketamine, ecstasy, and LSD was reported less frequently but was more common among participants aged 25-27 years, suggesting escalation in substance use with age, as observed in European and Maltese research (Azzopardi et al., 2021; European Monitoring Centre for Drugs and Drug Addiction [EMCDDA], 2023). DAST-10 scores indicated that while most participants reported no or low-risk substance use, a notable subgroup fell within the intermediate to severe range, signalling potential clinical relevance (Skinner, 1982; 2023). Binge drinking was reported by over one-third of participants. This is consistent with evidence that heavy episodic drinking is normative during emerging adulthood, particularly within social and relational contexts (Leventhal et al., 2016). Maltese findings further reflect a cultural context in which intoxication has become

increasingly normalised among young adults (Clark & Cuschieri, 2018; World Health Organisation [WHO], 2024).

In line with the second research question, a significant positive association was observed between anxiety and substance use. Higher GAD-7 scores were associated with higher DAST-10 scores, indicating that anxiety symptoms and problematic substance use tended to co-occur. This finding aligns with existing literature describing links between anxiety-related distress and substance use (Guillot et al., 2024; Khantzian, 1985; Lewis, 2016). Anxiety levels also increased across substance use severity categories, suggesting a potentially bidirectional relationship in which anxiety contributes to substance use, while substance use may exacerbate anxiety symptoms (Bahji, 2024). These findings emphasise the importance of addressing emotional distress in substance use prevention and intervention efforts.

Regarding sociodemographic factors, general linear modelling indicated that male gender, age 25-27 years, higher anxiety levels, and casual dating status significantly predicted more problematic substance use. Higher substance use among males is consistent with international evidence showing greater risk-taking and substance involvement in this group (Harmon et al., 2021). Elevated risk among older emerging adults may reflect greater autonomy, financial independence, and exposure to social environments where substance use is more accessible. Relationship status also emerged as relevant, with casually dating and single participants reporting higher substance use than married individuals, aligning with research suggesting that relational instability and transitions increase substance use risk during emerging adulthood (Fleming et al., 2010).

Several limitations in this study should be acknowledged. Self-reported data may be subject to recall and social desirability biases, and the cross-sectional design limits causal interpretation. Anxiety symptoms may also fluctuate over time and context. Despite these limitations, the findings provide valuable insight into the intersection of anxiety and substance use among Maltese emerging adults.

6. Conclusion

Overall, this study demonstrates that anxiety and substance use are closely intertwined during emerging adulthood. The presence of a subgroup with elevated anxiety and problematic substance use highlights the need for integrated, developmentally informed interventions. Early identification of anxiety, alongside targeted substance use prevention strategies, may reduce reliance on maladaptive coping and mitigate longer-term mental health risks. Future research should continue to examine these relationships within Malta's evolving social and cultural landscape.

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