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Effects of Substance Use Disorder on the Students' Academic Performance in Khyber Pakhtunkhwa, Pakistan

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Abstract

In Pakistan, the use of drugs in academic institutions has emerged which adversely affects the everyday activities and academic performance of the students. This study was designed to analyze the substance use disorder on the students' academic performance in Khyber Pakhtunkhwa, Pakistan. The study deployed the quantitative research approach involving a self-designed structured questionnaire from 120 drug addict students by using a snowball sampling technique from one college of District Dir Lower, Khyber Pakhtunkhwa, Pakistan. The data were analyzed through the Chi-square test to test the association between independent and dependent variables. The results unveil that most of the participants were up to the age of 23 years, single and BS students were more exposed to drugs. The study found a significant association between the use of drugs and poor academic performance due to lack of interest in the classes, facing difficulties in the lectures, neglect to complete the tasks/assignments, difficult to concentrate on studies, absenteeism, strained relationships with other students, poor memory and psychiatric comorbidity The study recommends that law enforcement agencies should pay attention to

combating drugs; the colleges' administration may monitor to prevent the use of drugs on the college premises and arrange seminars to make the students aware of the toxicity of the drugs.

Keywords: substance use; academic performance; students; Pakistan

1. Introduction

The United Nations Office on Drugs and Crime estimates that there are 6.7 million drug users in Pakistan, including approximately 2 million addicts (Thangavel, 2023). Heroin and cannabis are the most commonly used and highly abused drugs in Pakistan (Shafiq et al., 2006). The illicit drug trade in the nation brings in up to $2 billion annually (Naím, 2005). Pakistan has one of the highest rates of drug addiction in the world, with 40,000 more people becoming addicted to drugs annually (Rehman et al., 2022). According to a report published by UNODC, the highest prevalence rates are found in KP, with cannabis, opioids, and tranquilizers being the most common (Fordham, 2012). The report reveals that levels of dependent drug use in KP were found to be higher as compared to the other regions in Pakistan. Moreover, other local researchers such as Jan, Alam, and Khan (2022) have found that the use of drugs are more prevalent among certain social groups, such as male adults and adolescents, who have a higher propensity to take and misuse substances. Keeping in view these alarming statistics, the present research was designed to explore drug use in educational settings, which is becoming more prevalent in this region and is exerting a negative impact on students' daily lives in general and their academics in particular.

Substance use disorder (SUD) is operationally defined as a mental health condition characterized by uncontrolled use of drugs that can causes significant distress and impairs life functioning (Hayley et al., 2017). It is possible to misuse a variety of substances, including

tobacco and nicotine, alcohol, caffeine, cannabis, hallucinogens, hypnotics, sedatives, inhalants, opioids, and stimulants. Research indicates that substance abuse and hard drug consumption pose serious mental and physical health risks to the young population by stimulating or depressing the central nervous system (Jan, Ali, Niqab, & Iqbal, 2022; Dankano & Garba, 2020). Substance use disorder (SUD) can be mild, moderate, or severe, with addiction being the most severe form. It involves continued substance use despite negative consequences, fueled by the brain's reward system. Both physical and psychological dependence are developed, with psychological dependence causing a drug's centrality to thoughts, emotions, and activities, and physical dependence causing the body to adapt to the substance (Ejodamen & Ogini, 2021). In the present context, the terms "addiction/addict," "abuse/abuser," and "dependence" have been used to describe substance use.

Substance use disorder involves overpowering desire, increased tolerance, and withdrawal symptoms. People with substance use disorder have a strong fixation -sometimes referred to as an addiction-on using a specific drug or substance, such as alcohol or tobacco, which interferes with their daily functioning. Repeated substance use can cause brain changes that last long after the immediate intoxication wears off (Wise, 2000). Intoxication is the intense pleasure, euphoria, and calm caused by the substance, and with continued use, tolerance can develop, leading to withdrawal symptoms and intense cravings to return to use. Moreover, people with a substance use disorder may also develop distorted thinking and behaviors due to brain changes related to judgment, decision-making, learning, memory, and behavioral control. People with substance use and behavioral addictions may be aware of their problem but not be able to stop, causing physical and psychological problems, as well as interpersonal issues.

A large body of research available on substance abuse claims that addictions can be life-threatening and or negatively affect health, relationships, and quality of life (Horning, 2019). These studies have shown that this chronic condition has a high relapse rates, ranging from 56.8% to 81.8% making it more challengeable to deal with. Effective preventive and treatment strategies are needed to tackle substance abuse, with the former focusing on public awareness and the latter on helping addicts achieve complete abstinence and avoid relapse. This, however, requires investigating psychological, cognitive, social, and cultural aspects simultaneously and interactively.

Drug addiction among university-going adolescents is more common (Jan, Alam, & Khan, 2021; Goodman, 2009) due to easy access to drugs in educational institutions. Factors such as social and economic pressures, academic pressure, parental expectations, lack of counseling, and easy access to drugs contribute to this issue. Early addiction increases the risk of developing serious addiction later in life. Delaying substance use among young people can decrease its impact on their lives.

Other, Reasons for substance abuse among students may be psychological, social, developmental, and physical pleasure; family background; boredom; fear relief; and out of curiosity, etc. (Chebukaka, 2017). Students increasingly use prescription medications, particularly narcotics to relieve severe pain and stimulant medications to treat conditions such as narcolepsy and attention deficit disorder (Jan et al., 2022; Balogun, 2016). It is common for students who begin using drugs at a younger age to have long-term effects on the user's ability to learn. Drug abuse can cause certain areas of the brain to fail to develop properly, leading to learning disabilities. Continued drug abuse further leads to a loss of judgment and memory. Many students who use drugs tend to be forgetful and have difficulty concentrating on their

studies; it can also cause short-term memory loss (Akanbi, Augustina, Theophilus, Muritala, & Ajiboye, 2015).

Substance abuse may impair memory by slowing the coordination of material and may reduce a student's ability to remember such material learned prior to drug use (Emmanuel, Akhtar, & Rahbar, 2003; Hamid, 2002). Likewise, students who engage in drug-related behavior often develop poorly academically and socially because they are not respected and recognized enough to make a reasonable contribution to any development. This is because drug abuse will not only reduce students' academic performance but also affect the improvement of students' moral, physical, and overall qualities (Shafiq, Shah, Saleem, Siddiqi, Shaikh, Salahuddin, & Naqvi, 2006). As a result, young people who are seen as future leaders and trained in different fields in various higher education institutions turn to drug abuse. This behavior does not contribute to the development of students, and therefore, their expected output may significantly reduce their academic performance due to continued substance abuse by these students (Chebukaka, 2017).

Substance abuse among students not only affects their academic performance but also affects their cognitive quotient, thereby exposing them to health and criminal challenges (Meht & Rouf, 2013). Despite worldwide attention and education about the dangers of drug abuse, many students are ignorantly or knowingly dependent on one drug or another in their daily lives. Most psychotropic drugs affect students' decision-making processes; creative thinking and the development of necessary life and social skills are hindered. They can also interfere with the recognition of an individual's unique potential and interests, thereby affecting their career development (Velleman, Templeton, & Copello, 2005). Cognitive and behavioral problems

experienced by adolescents who use drugs may affect their academic performance and create barriers to the learning of their classmates (Masood & Sahar, 2014).

Pakistan, a developing country in South Asia, is no exception and suffers from drug abuse. Like other parts of the world, the abuse of various drugs by a large section of the population in Pakistan is also considered a complex national and international challenge by doctors, education stakeholders, religious figures, law enforcement agencies, and parents, as the participation rate among students is alarming, with harmful consequences for health, education, and social well-being (Jan et al., 2022).

Likewise, recent reports on drug abuse in Pakistan have revealed rising rates of drug abuse among students and its harmful effects. Therefore, this study was conducted to determine the impact of drug abuse on the academic performance of undergraduate students at Government Ghazi Umara Khan Degree College, Dir Lower, Khyber Pakhtunkhwa, Pakistan.

2. Significance of the Study

This study intends to demonstrate how substance use affects students' academic performance, encourage additional investigation into related issues, inform students of the health risks associated with alcohol use, assist parents in raising their children, and give government agencies the authority to enact legislation prohibiting alcohol use.

3. Objective of the study

1. Investigate and examine the impact of substance use on students' academic performance.

4. Hypothesis

1. Adolescents who take drugs are more likely to have poor academic achievement.
2. Intoxication due to substance use tends to inhibit learning and memory functioning.

3. Intoxication tends to shorten attention spans, resulting in poor note-taking and less efficient studying.

5. Methodology

The study was conducted at Government Ghazi Umara Khan Degree College, Jandool, Dir Lower, Khyber Pakhtunkhwa, Pakistan. The research design of the study was cross-sectional. The data were collected from the currently enrolled students who were drug users. Since drug abuse is considered a social stigma in our society, therefore, the addicts were reserved in their expression. Initially, the researchers knew personally some drug users, thus, a snowball sampling technique was used and traced other unknown respondents through known ones. The researcher traced a total of 120 respondents and the researchers decided to include all the drug abusers as a population of this study. In addition, the data were collected through a structured questionnaire. Furthermore, a Cronbach alpha test was carried out to check the tool's reliability, which stood at 0.8. Additionally, a Chi-square test was applied to test the association between independent (i.e. drug abuse effects) and dependent variables (i.e. academic performance) by using SPSS software. Furthermore, consent was obtained by asking participants. Participants' confidentiality was ensured, and the gathered information was arranged in a table for further analysis. The purpose of the study was explained, and participants' consent was obtained.

6. Results

Table 6.1

Socio-Demographic Characteristics of the Students (N=120)

	N	Percent
Age (in years)		
18-20	43	35.8
21-23	63	52.5

24-26	12	10.0
27-29	02	01.7
Marital status		
Single	105	87.5
Married	15	12.5
Education level		
HSSC/A level	42	35.0
Total	120	100.0

The study involved 120 drug addicts, with; the majority of the students (52.5%) were between the ages of 21 and 23. Additionally, the majority of research participants (n=105, 87.5%) were single and mostly representing last semester of four-year bachelor's degree program.

Table 6.2

Types of Drug Abused by the Students (N=120)

Type of drug	N	Percent
Cigarette	45	37.5
Hashish/*Chars*	51	42.5
Methamphetamine/ice	03	2.5
Majun-e-Falak Sair	05	4.2
Poly drug user	16	13.3
Total	120	100.0

Table 6.2 shows that out of 120 participants, 37.5% smoked cigarettes, while 42.5% used hashish/Chars, 2.5% used methamphetamine/ice, 4.2% used a local drug based on hashish (*Majun-e-Falak Sair*), and 13.3% used poly drugs or multiple drugs at a time.

Table 6.3

Association of classroom behavior of Drug Abusers with Academic Performance for N=120 Drug addicted students

Classroom Behavior Assessment of the Abusers	X^2 value (df=1)	Level of significance
Difficult to listen to lectures	28.179	0.002
Difficulty in attentiveness in classroom	34.867	0.000
Neglect to complete the task/assignments	32.310	0.001
Difficult to concentrate on studies	21.789	0.007
Absenteeism	26.149	0.003
Discontinuation of academic career/dropout	25.732	0.005
Lack of interest in extracurricular activities	14.814	0.182
Lack of enthusiasm for learning	36.787	0.000
Strained relationships with classmates	40.545	0.000
Avoidance of social interactions	38.832	0.000
Poor memory	27.462	0.004
Psychiatric comorbidity	24.317	0.003

A chi-square test of independence was performed to examine the relationship between the classroom behavior of drug-addicted students and their academic performance. The relationship between these variables was found to be significant. The proportion of students who reported lacking concentration did differ by academic performance (X^2 (1, N = 120) = 28.179, p >.05. A chi-square test of independence showed that there was a significant association between difficulty in attentiveness in the classroom and academic performance (X^2 (1, N = 120) = 34.867, p >.05. As can be seen by the frequencies cross-tabulated in Table 6.3, there is a significant

relationship between neglect to complete the task/assignments and academic performance: X^2 (1, N = 120) = 32.310, p >.05. The findings reveal that those who had poor focus on studies were more likely to perform poorly in academics. The relationship between these variables was also found to be significant: X^2 (1, N = 120) = 21.789, p >.05. Similarly, absenteeism and discontinuation of academic career/dropout were also associated with poor academic performance: X^2 (1, N = 120) = 26.149, p >.05 and X^2 (1, N = 120) = 25.732, p >.05, respectively. However, there was no significant relationship found between lack of interest in extracurricular activities and academic performance; X^2 (1, N = 120) = 14.814, p >.05. The chi-square statistics in the table reveal that lack of enthusiasm was closely associated with their academic performance. The association between these variables was found to be significant. X^2 (1, N = 120) = 36.787, p >.05. Similarly, the respondents who had unhealthy social relationships and preferred seclusion failed to perform well in academics. These frequencies were found to be significantly different: X^2 (1, N = 120) = 36.787, p >.05 and X^2 (1, N = 120) = 36.787, p >.05, respectively. Addicted students were more likely to develop abnormal psychological conditions, and that was closely associated with their poor academic performance too. The chi-square test shows a significant relationship between the two variables: X^2 (1, N = 120) = 36.787, p >.05.

7. Discussion

The current study looked at how drug consumption affected students' academic performance at the Government Ghazi Umara Khan Degree College, Jandool, District Dir Lower, Khyber Pakhtunkhwa, Pakistan. The current study's findings show that most of the students were BS program participants who were between the ages of 21 and 23 and were unmarried. Additionally, the majority of the students used hashish/*Chars*. Jan et al. (2022) also attest to the present findings and view drug abuse as Pakistan's most challenging and rapidly increasing issue. It is

particularly prevalent among the country's youth, ages 16 to 26. Substance abuse is found to be prevalent among the college students of Government Ghazi Umara Khan Degree College, Dir Lower, causing academic, physical, mental, and social issues. Nearly 12% of students meet the criteria for at least one substance use disorder (SUD). The survey reveals the highest rates of hashish and chars use among college-age students. This is the main cause of their poor academic performance and poor mental health.

The findings of the present research show substance abuse does negatively impact university students' academic performance. There are several reasons why substance abuse might affect academic outcomes. College is a time of self-discovery, potential, and independence, but for many students, the weight of expectations from parents, teachers, and society can worsen. College students, while struggling to adapt to a new lifestyle with less structure and various directions, end up with substance abuse issues. Online access to alcohol flows freely on campuses, and drug use is common in hostel rooms to escape stress or boost academic performance, potentially causing addiction. College students often resort to substance abuse due to various factors, including high stress levels, social reasons, family history of substance use disorders, beliefs about substance use, poor academic performance, transitioning from childhood to adulthood, and the easy availability of drugs on campus.

Moreover, college campuses have also seen a rise in the use of prescription stimulants for cognitive enhancement among college students. This presents another challenge for prescribers to ensure proper use for diagnosed conditions, as the risk of addiction runs high in this population. Another plausible reason could be a bidirectional relationship between substance use and academic performance, with academic experiences predicting substance use more strongly than anything else.

The use of drugs increases the likelihood of dropping out of high school and lowers educational attainment. Similarly, illicit drugs can lead to dangerous behaviors, poor health, and social consequences. It can result in a lower GPA, missed classes, dropping out, and expulsion. Physical health issues like hangovers, nausea, and injuries can also occur. Mental health issues like decreased cognitive performance and addiction can also arise. Social isolation can also occur due to the increased use of alcohol or drugs. Substance use is linked to learning and memory deficits, affecting academic performance.

The present study has shown that heavy adolescent substance use can lead to problems with working memory and attention, which may result in decreased academic performance and increased risk for school problems and dropout. These effects are more pronounced in heavy drinking and drug-using adolescents, and it is unclear whether these effects would emerge at lower levels of use. The magnitude and permanence of these effects are also unclear. Brain imaging studies (e.g., Cuzen, Koopowitz, Ferrett, Stein, & Yurgelun-Todd, 2015; Meruelo, Castro, Cota, & Tapert, 2017; Tapert, Schweinsburg, Drummond, Paulus, Brown, Yang, & Frank, 2007) show that substance use negatively affects the prefrontal cortex, which is responsible for decision-making, working memory, and self-control. A study by Brown, Tapert, Granholm, and Delis (2000) has also shown decreased neuropsychological performance and a lower volume of the hippocampus, which supports long-term memory. Impaired reward perception may also contribute to the relationship between substance use and academic performance.

Another important finding revealed by this study is that drugs and alcohol use during adolescence may lead to associations with antisocial peer groups, diminishing school engagement, and increasing other behavioral and social problems. Antisocial tendencies among

students with substance use disorders are associated with conduct disorders (CD), which are characterized by aggressive behaviors, truancy, and lying. While they also show a high level of anxiety, emotion dysregulation, and low impulse control, children with CD initiate substance use early and have elevated rates of both substance use and substance use disorders. Cognitive-affective deficits related to emotional dysregulation and failures of executive functions contribute to this antisocial pathway. The development of substance use disorders in youth with CD may result from underlying psychobiological vulnerabilities, including emotion dysregulation, disinhibition, and reward-dominant behavior. Further, substance abusers with conduct disorders tend to display reduced sensitivity to others' emotions, struggle to integrate affective information into their behavior, and fail to update their behavior based on outcomes. This pattern of affective hyporeactivity and behavioral dysregulation may increase the risk of substance use in youth by association with risk-seeking and behaviors that provide rewards, regardless of the negative consequences.

The teenage years are a critical window of vulnerability to drug abuse, as the brain is still developing and malleable. Findings in the present research reveal that adolescents are increasingly experiencing cognitive dysfunction as a significant health issue linked to substance abuse. Substance exposure during adolescence may adversely affect cognitive functioning, with adolescents experiencing poorer performance on working memory, verbal learning, visuospatial functioning, and psychometric motor speed tasks. Cognitive deficits may be sustained in chronic users. Recent studies (e.g., Gonzalez, 2007; Gruber, Silveri, Yurgelun-Todd, 2007; Abdulaal et al., 2023) have found deficiencies in various functions, including learning, memory, executive functioning, problem-solving, visuospatial, verbal ability, and speed of information processing, connected to excessive alcohol and other substance use problems.

Comorbidity between substance use disorders and mental illnesses is also found common. Heavy drug-using adolescents may directly impair cognition, making them susceptible to psychiatric comorbidity. Common comorbidity between mental and substance use disorders raises concerns about treating each separately. Clinicians should view these issues as part of a complex, closely linked phenomenon. All drugs have some kind of effect on mental health. For instance, alcohol and drug misuse can lead to various mental health issues, including stress, anxiety, depression, memory loss, and even death. Alcohol, as a depressant, disrupts the brain's balance, affecting thoughts, feelings, and actions. It can also cause mood changes such as aggression, anger, anxiety, and depression. Alcohol and drugs can also cause anxiety, stress, and depression, affecting work, home, and financial worries. Drugs, particularly cocaine, amphetamine, and methamphetamine, can trigger psychotic mental health issues such as hallucinations, delusions, confusion, and disturbed thoughts. Psychosis can also lead to self-harm and suicide, with over half of people who die from suicide having a history of self-harm linked to drug and alcohol issues. In conclusion, drugs and alcohol can have serious long-term effects on mental health, leading to increased risk of harm, addiction, and potential suicide. It is crucial to seek professional help if you suspect you are using drugs or alcohol for the first time. On the other hand, preventive interventions aimed at improving academic engagement should broaden their focus beyond drug use in adolescence and target community and family risk factors. Drug use in adolescence partially mediated the effect of adolescent externalizing behaviors on college completion, suggesting that externalizing behaviors are a powerful target of intervention.

8. Recommendations

This study recommends that national law enforcement agencies should pay attention to combating drugs (both on the demand and supply sides), the colleges' administration may

monitor to prevent the use of drugs on the college premises and arrange seminars to make the students aware of the toxicity of the drugs, concerned authorities may spread awareness through social media, mass media, and religious scholars, and families may play a role in both the prevention and recovery of drug addicts. Educational institutions may also conduct self-esteem training, and conduct periodic screening.

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