



Study Of Self Esteem And Personality With Drug Use Among Adults

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ABSTRACT

This study examines the relationship between drug use, self-esteem, and personality traits. Using a correlational approach, associations between different types of drugs and personality traits were explored. By scrutinizing the connections between various types of drugs and personality traits, we sought to discuss valuable insights into these relationships. Our investigation extended to exploring the nuanced connections between self-esteem factors and personality traits, illuminating their mutual influence. To ensure a comprehensive understanding, we conducted independent samples tests to discern any disparities in drug use, self-esteem, and personality traits among genders. By employing effect size analyses, we aimed to gauge the significance and magnitude of these differences, thereby providing a clearer picture of the observed relationships. The findings of this study hold significance for interventions geared towards enhancing well-being. By unraveling the complex dynamics between drug use, self-esteem, and personality, we contribute to the arsenal of knowledge essential for formulating effective interventions aimed at promoting mental and emotional health. However, it is important to acknowledge certain limitations inherent in our study. Chief among these is the reliance on self-reported data, which may introduce bias and affect the accuracy of our findings. Additionally, the cross-sectional design of the study limits our ability to establish causality and infer temporal relationships between variables.

Introduction

Substance abuse represents a complex societal issue with far-reaching implications, influenced by various psychosocial factors. Among these factors, personality traits emerge as crucial determinants, shaping individuals' propensity towards drug use (Abadi et al., 2018). Notably, high neuroticism, characterized by frequent negative emotions and low well-being, has been linked to increased vulnerability to stress, potentially driving individuals towards substance abuse as a coping mechanism (Abadi et al., 2018).

Despite the societal stigma attached to drug abuse, it spreads across different segments of society (Parvizi, Ahmadi, & Nikbakht Nasr Abadi, 2005). The ramifications extend beyond individual health to familial and public well-being, contributing to psychological and moral decline (Siam, 2007). The adverse effects ripple through society, manifesting as educational underachievement in children, elevated divorce rates, and instances of domestic violence (West, 2006).

Understanding the relationship between genetic predispositions and personality traits is pivotal in identifying individuals at heightened risk of substance abuse (Galanter, 2006; Trull & Sher, 1994). In this context, self-esteem emerges as a significant personality variable influencing human behavior (Sanford & Donovan, 1984). Defined as the self-judgment of personal worth and overall feelings of competence and self-acceptance (Rosenberg, 1965), self-esteem is cultivated through awareness of one's capabilities, sense of accomplishment, and feedback from the external environment (Guindon, 2002).

Rosenberg (1965) describes the significance of self-esteem as a fundamental aspect of individuals' self-perception, with high self-esteem reflecting a strong sense of self-respect and self-worth, while low self-esteem denotes feelings of self-dissatisfaction and self-rejection. This conceptualization highlights the pivotal

role of self-esteem in shaping individuals' psychological well-being and behavioral outcomes (Connor, Pozstazli, Ferrer-Wreder, & Grahame, 2004).

Empirical evidence suggests a tangible association between self-esteem and health-risk behaviors, with low self-esteem correlating with increased engagement in substance use (Kawabata, Cross, Nishioka, & Shimai, 1999; Young, Werch, & Bakema, 1989; Gordon & Caltahiano, 1996). Carvajal et al. (2000) further substantiate this link by demonstrating a relationship between low self-esteem and heightened cigarette use among adolescents. In exploring the multidimensional nature of self-esteem, Wu et al. (2014) emphasize its nuanced impact on substance use behaviors. Their study in Hong Kong highlights a negative correlation between self-esteem and alcohol and drug use, underscoring the protective role of self-esteem against these risk behaviors.

Research into personality traits shows that conscientiousness emerges as a crucial determinant, with low levels predisposing individuals to high-risk behaviors and substance abuse (Paunonen, 2003; Samavi, 2008). Similarly, agreeableness inversely correlates with drug abuse tendencies, with individuals exhibiting lower levels of agreeableness demonstrating a greater inclination towards substance use (Paunonen, 2003; Martin & Sher, 1994). Extraversion and openness to experience exhibit distinct relationships with substance abuse. High levels of extraversion are associated with increased alcohol and drug abuse tendencies (Paunonen, 2003; Samavi, 2008), while openness to experience demonstrates a similar relationship with drug abuse (Paunonen, 2003; Flory et al., 2002). The relationship between personality traits and drug abuse extends to sensation seeking, with individuals displaying higher levels of excitement seeking exhibiting a direct, positive association with substance use (Teichman, Barnea, & Ravav, 1989). This propensity towards addiction often stems from situational anxiety and depressed mood states (Teichman, Barnea, & Ravav, 1989). Miller (1991) further explains this phenomenon, noting a surprising combination of high neuroticism and low conscientiousness among drug abusers.

Neuroticism, characterized by emotional instability, reflects individual differences in the ability to confront negative emotions and is inversely related to internalization problems such as emotional inhibition, affectional disorders, and anxiety disorders (Abadi et al., 2018). Individuals high in neuroticism often exhibit difficulties in emotional regulation, impulsivity control, and coping with adversity, predisposing them to seek solace in substance abuse (Caspi, Roberts, & Shiner, 2005). Extroverted individuals, known for their sociability, energy, and enthusiasm for novel experiences, demonstrate a heightened propensity towards risk-taking behaviors, including drug abuse (Zuckerman, Buchsbaum, & Murphy, 1980). Their innate need for intense external stimulation drives them to seek out novel and exciting experiences, often pushing the boundaries of social and physical risk (Lounsbury et al., 2005). Individuals with high levels of conscientiousness exhibit a lower likelihood of engaging in drug abuse, as they tend to adhere to societal norms and enjoy stable interpersonal relationships (Zuckerman, 2004). Their disciplined and organized nature predisposes them towards law-abiding behavior and fosters resilience against the allure of substance misuse.

The relationship among substance abuse, self-esteem, and psychological well-being continues to garner attention within research literature. Welsh and Strain (Johnson et al., 2000) highlight the effects of opiates, noting their potential for both anti-depressant and anti-anxiety outcomes, which may contribute to their allure among individuals grappling with emotional distress.

Adolescents' engagement in health-risk behaviors, including alcohol and drug use has been linked to their self-esteem levels (Young, Werch, & Bakema, 1989; Buyukgoze-Kavas, 2009). Dielman et al. (1984) highlights the statistical significance of the relationship between self-esteem and drug use, albeit with a modest effect size. Gender differences also manifest in health-risk behaviors, with males exhibiting higher rates of cigarette and illicit drug use, while both genders experience a significant association between alcohol and illicit drug use and low self-esteem (Buyukgoze-Kavas, 2009).

The pervasive impact of substance abuse on adolescents reverberates across various domains of their lives, including physical, mental, academic, and interpersonal realms (National Center on Addiction and Substance Abuse). Stress disorders emerge as a significant precursor to substance abuse, with adolescents experiencing stress demonstrating a heightened propensity towards alcohol usage (Miller, Vogt, Mozley, Kaloupek, & Keane, 2006; Adams, Boscarino, & Galea, 2006). Emerging research finds inverse relationship between stress and self-esteem among college students, highlighting the protective role of self-esteem against maladaptive coping strategies (Dixon & Kurpius, 2008; Edwards, Burnard, Bennett, & Hebden, 2010). Self-esteem emerges as a cornerstone of mental health, serving as a buffer against the harmful effects of stress and contributing to confident social behavior (Mann, Hosman, Schaalma, & De Vries, 2004). Adolescents endowed with high self-esteem demonstrate greater resilience against substance abuse, showcasing their ability to navigate stressors and resist the allure of maladaptive coping mechanisms (Uba, Yaacob, Abu Talib, Mofrad, & Abdullah, 2013). Elevated self-esteem empowers them to counteract the detrimental impact of stress, highlighting the protective function of positive self-perceptions in mitigating substance abuse tendencies (Uba, Yaacob, Abu Talib, Mofrad, & Abdullah, 2013).

Existing and ongoing research on adolescent substance abuse presents a pressing concern within contemporary society (Shek, Ma, & Sun, 2011). Data from the Narcotics Division in Hong Kong underscore the prevalence of lifetime alcohol, cigarette, and drug use among secondary school students, highlighting the need for targeted intervention strategies to mitigate this concerning trend (Narcotics Division, 2004).

The relationship between familial dynamics, peer influences, and individual self-esteem emerges as significant determinants shaping adolescents' susceptibility to substance use (Feldstein & Miller, 2006). Low self-esteem emerges as a potent predictor of substance use during adolescence, with individuals utilizing substances as maladaptive coping mechanisms to alleviate negative emotions and navigate stressors (Torres & Fernandez, 1995; Tiggemann, 2005; Jessor et al., 1995). However, contradictory findings suggest an inconsistent relationship between low self-esteem and risk behaviors, underscoring the nuanced nature of these associations (Torres & Fernandez, 1995; Abernathy, Massad, & Romano-Dwyer, 1995; Byrne & Mazanov, 2001). Gender differences further compound the complexity of these relationships, with distinct factors influencing alcohol use patterns among males and females (Wu et al., 2014). Females, burdened by academic pressures and body image concerns, demonstrate a heightened vulnerability to substance use as a coping mechanism (Wild et al., 2004). Notably, lower school self-esteem emerges as a significant predictor of alcohol use among females, reflecting the relationship between academic stressors and maladaptive coping strategies (Wu et al., 2014).

Peer influences, particularly related to body image perceptions, contribute to the risk of substance use among female adolescents (Wu et al., 2014). Body dissatisfaction serves as a link for substance use as a means of weight management control, highlighting the relationship between self-esteem, body image, and substance use behaviors (Wu et al., 2014). Additionally, adverse childhood experiences, including abuse, neglect, single parenthood, and parental substance abuse, augment the risk of substance abuse in adulthood, underscoring the enduring impact of early-life adversity on individuals' susceptibility to substance use (Bennett & Kemper, 1994; Osler, Nordentoft, & Andersen, 2006).

Impulsivity, characterized by a tendency to act without sufficient forethought, has emerged as a significant predictor of polysubstance use among adolescents (Dawe & Loxton, 2004; Hecimovic et al., 2014; Moody et al., 2016). Individuals with high levels of impulsivity demonstrate deficits in response inhibition, rendering them more susceptible to early experimentation with substances and subsequent compulsive use (Castellanos-Ryan et al., 2014).

Sensation seeking, or novelty seeking, reflects a desire for novel and intense stimulation and is closely linked to substance use behaviors (Cloninger, Svrakic, & Pryzbeck, 1993; Zuckerman, 1994). High sensation seekers exhibit heightened sensitivity to the rewarding properties of drugs and are more prone to misuse stimulants for purposes such as studying, staying awake/alert, and seeking recreational highs (Castellanos-Ryan & Conrod, 2012; Herman-Stahl et al., 2006; Yudko, Lozhkina, & Fouts, 2007).

Negative and positive affect regulation play pivotal roles in understanding prescription drug misuse motives, with individuals using prescribed drugs to alleviate negative emotional states or enhance positive mood, respectively (McCabe, Boyd, & Teter, 2009). Stimulants, in particular, activate mesolimbic dopamine activity and are often misused by high sensation seekers to regulate positive affect (Castellanos-Ryan & Conrod, 2011). Conversely, individuals high in impulsivity are prone to a broader pattern of prescription drug misuse, including opioids, sedatives/tranquilizers, and stimulants, often amidst other deviant or antisocial behaviors (Castellanos-Ryan & Conrod, 2011).

Self-esteem is a fundamental aspect of individuals' psychological well-being that plays a crucial role in shaping their social problem-solving abilities (D'Zurilla et al., 2002). Defined as a global affective orientation towards the self, self-esteem surrounds individuals' evaluative views of themselves and significantly impacts their psychological well-being and social functioning (Robins, Tracy et al., 2001; Robins, Hendin et al., 2001; Salmivalli, Kaukiainen, Kaistaniemi, & Laperspetz, 1999). Positive traits such as agreeableness, conscientiousness, emotional stability, and openness are positively correlated with self-esteem, reflecting individuals' adaptive functioning and positive self-perceptions (Graziano & Ward, 1992; Watson, Suls & Haig, 2002). Self-esteem is positively associated with a positive problem orientation and inversely related to a negative problem orientation, indicating its influence on individuals' cognitive-emotional approach to problem-solving (D'Zurilla et al., 2003). High scores on conscientiousness and openness are linked to effective problem-solving skills, reflecting individuals' openness to new experiences, organizational skills, and reliability (D'Zurilla et al., 2011). Conversely, neuroticism demonstrates a negative association with social problem-solving, indicating ineffective problem-solving abilities and maladjustment among individuals with neurotic characteristics (D'Zurilla et al., 2011). The implications of poor social problem-solving skills extend beyond individual functioning, impacting individuals' mental health and well-being (D'Zurilla & Maydeu-Olivares, 1995). Moreover, neuroticism exhibits a strong negative correlation with self-esteem, highlights the negative impact on individuals' self-perceptions and psychological functioning, while extraversion demonstrates a robust positive correlation with self-esteem, reflecting its association with positive affect and social engagement (Watson et al., 2002).

The correlations between psychiatric symptoms, personality traits, childhood abuse, and low self-esteem shows their collective impact on suicidality among substance-abusing individuals. Research indicates that low self-esteem, depression, and trait anxiety serve as strong predictors of suicide probability among alcohol-dependent individuals (Demirbas, Celik, Ilhan, & Dogan, 2003). Similarly, individuals with a history of suicidal ideation and attempts demonstrate elevated levels of childhood violence and impulsivity, highlighting the enduring impact of early-life adversity on suicidality in alcohol-dependent populations (Khemiri, Jokinen, Runeson, & Jayaram-Lindstrom, 2016).

Drug-dependent individuals who have attempted suicide exhibit heightened levels of childhood abuse, depression, introversion, neuroticism, and hostility, underscoring the multifaceted nature of risk factors contributing to suicidality within this population (Roy, 2003). Depressed mood, a common symptom of cocaine addiction, is detailedly linked to suicidal ideation, particularly during withdrawal phases, highlighting the connections between substance use and psychiatric symptoms in suicidality (Weddington et al., 1990; Claassen & Larkin, 2005; Ilgen et al., 2009).

Personality traits such as novelty seeking have been associated with the initiation of substance misuse, further exacerbating the risk of suicidality among vulnerable individuals (Schneider, Ottoni, Carvalho, Elisabetsky, & Lara, 2015). Additionally, suicidal ideation is more prevalent among cocaine-addicted women with a constellation of risk factors including low self-esteem, sexual abuse, anxiety, unemployment, and financial difficulties, highlighting the intersectionality of various psychosocial stressors in precipitating suicidality (Klein, Elifson, & Sterk, 2006). Child neglect emerges as a significant risk factor for the development of substance use and abuse behaviors in adolescence and young adulthood, further underscoring the enduring impact of adverse childhood experiences on individuals' susceptibility to substance abuse and associated mental health concerns (Dunn et al., 2002; Shin et al., 2009).

The impact of early life stress on adolescent development studies highlight the association between early life stress exposure and self-concept vulnerabilities (Kim and Cicchetti 2004; Oshri et al. 2013). These vulnerabilities, in turn, have been linked to substance use and abuse behaviors during the transition into young adulthood (Shrier et al. 2001). Self-concept vulnerability pathways to drug use are often explained through self-medication theories, which posit that substances are utilized as a means of coping with emotional distress and negative affect stemming from early adverse experiences such as child neglect (Oshri et al., 2016).

The relationship between self-esteem and substance use remains complex and inconsistent. While some studies have documented direct associations between self-esteem and alcohol and cannabis use (McGee and Williams 2000), others have failed to confirm this link, highlighting the need for further investigation within large longitudinal samples and sophisticated analyses to account for unobserved heterogeneity in the development of self-esteem during adolescence (Oshri et al., 2016). Recent research suggests that lower levels of self-esteem sequentially predict alcohol abuse as well as cannabis use and abuse in young adulthood, explains the significance of self-esteem as a potential risk factor for substance use behaviors (Oshri et al., 2016). Negative self-schemata, which predispose youth to lower self-esteem and increased depressive symptomatology, further reinforce the link between self-esteem and substance use, supporting the self-medication hypothesis (Harter 2012; Kim and Cicchetti 2006; Oshri et al., 2016).

Sensation seeking that is characterized by the pursuit of novel and intense experiences for the pleasure derived from them, has been identified as a predictor of substance use initiation and abuse among adolescents (Zuckerman, 1994; Pedersen, 1991; Simon et al., 1994). Individuals high in sensation seeking exhibit a propensity for physical and social risk-taking behaviors, making them particularly vulnerable to substance use and dependence (Ball et al., 1994). Moreover, sensation-seeking drug users often gravitate towards depressants such as alcohol, barbiturates, or opiates, seeking the euphoric effects associated with these substances (Zuckerman, 1994). Impulsivity that characterized by a preference for immediate rewards over delayed gratification, has also been implicated in the development and maintenance of substance abuse disorders among the young population (Kalenscher et al., 2006; Dawes et al., 1997). Longitudinal studies have consistently demonstrated a heightened risk of substance abuse disorder among individuals with high levels of impulsivity, with chronic substance use often associated with impaired performance on impulsivity tasks and high scores on impulsivity questionnaires (Allen et al., 1998; Patton et al., 1995; Fillmore and Rush, 2002; Salo et al., 2002; Clark et al., 2006). Self-esteem, representing an individual's global judgment of self-worth, has also been implicated in substance abuse behaviors (Crocker and Wolfe, 2001; Furnham and Lowick, 1984). Traditionally, low self-esteem has been posited as a significant factor predisposing individuals to drug abuse, with the assumption that those with low self-esteem may turn to substances as a means of coping with negative affect or as a form of self-medication (Moore et al., 1996). Research suggests that individuals high in sensation seeking and disinhibition traits may exhibit heightened sensitivity to the subjective effects of nicotine, potentially predisposing them to tobacco use initiation and dependence (Perkins et al., 2000). This highlights the nuanced relationship between personality traits, substance use behaviors, and individual differences in subjective drug responses.

Literature Review

Relationship between Drug and Self-Esteem

Substance abuse remains a significant public health concern globally, with its occurrence influenced by a multitude of psychosocial factors. Personality traits play a central role in shaping individuals' susceptibility to substance use and abuse behaviors. Among these traits, sensation seeking, impulsivity, and self-esteem have emerged as key predictors of substance use initiation, maintenance, and escalation among adolescents and young adults. Wu et al. (2014) addressed the global concern of adolescent substance use with a Hong Kong study, delving into the 30-day prevalence of smoking, drinking, and drug use. They emphasized multidimensional self-regard over unidimensional approaches, highlighting the negative correlation between

self-esteem and alcohol and drug use but the limited association with smoking. Uba et al. (2013) examined how self-esteem mediates the connection between stress and substance abuse in adolescents. Elevated self-esteem was found to mitigate the effect of stress, reducing the likelihood of substance abuse. Their study underscored cognitive theory, emphasizing the relationship between behavior, thoughts, and environment. Lifrak et al. (1997) found that elevated perceived academic confidence is linked to reduced substance use in both genders. Boys benefit from teacher and parental support, particularly if they have low academic reliance, while girls show no significant relationship with substance use except for support from classmates. Ramadhan et al. (2018) investigated the impact of resilience training and family psychological education on adolescent self-efficacy to deter drug use in boarding school students. Their study highlighted the vulnerability of adolescents with drug use to low self-esteem. Keliat et al. (2018) aimed to examine the neurodevelopmental factors underlying interpersonal guilt and shame proneness in robust adolescents and young adults using essential magnetic resonance imaging (MRI), explains on the detailed relationship between neural mechanisms and psychological traits associated with substance use behaviors.

Relationship between Drug and Personality

Substance abuse remains a complex phenomenon influenced by a myriad of factors, including personality traits, environmental influences, and individual vulnerabilities. Recent studies have explained on various aspects of substance use behaviors and their underlying mechanisms. Poelen et al. (2022) aimed to explore the role of substance use motives in moderating the link between personality traits and substance use outcomes in individuals with Mild Intellectual Disability (MID) or Borderline Intellectual Functioning (BIF). Their findings suggest that substance use motives may indeed interfere with the relationship between personality traits such as sensation seeking, impulsivity, anxiety sensitivity, and negative thinking, and substance use outcomes in individuals with MID-BIF, mirroring findings in those without MID-BIF.

Abadi et al. (2018) highlighted the association between elevated neuroticism and vulnerability to stress, persisting in frequent negative emotions. They found that individuals struggling with law enforcement may resort to drug abuse as a coping mechanism for psychological pain, often resulting from ineffective coping strategies and self-blame, leading to risky behaviors like drug abuse. Anikka et al. (2013) conducted a national cohort study of former substitute care children, revealing that former foster children faced a significantly increased risk for alcohol and drug misuse/abuse in young adulthood. Adoptees, although exposed to lower but still elevated risk, primarily experienced trouble associated with birth parents' substance abuse and psychiatric illness.

Stewart et al. (2021) investigated the relationship between hopelessness, depressive symptoms, anxiety sensitivity, sensation seeking, and opioid and sedative misuse. Their findings suggest that hopelessness is linked to opioid misuse through depressive chronic symptoms, while anxiety sensitivity is associated with sedative misuse via anxiety traits. Sensation seeking is directly associated with stimulant misuse, highlighting the importance of addressing specific personality traits in reducing the risk of prescription drug misuse in high-risk adolescents. Mousaviraja et al. (2014) found no notable difference between married and unmarried groups in sensing the family's role in intercepting high-risk behaviors. However, education levels differed significantly, with drug abuse among family and friends, combined with personality type, influencing substance abuse predisposition. Further research on the age of drug initiation is warranted to better understand the developmental trajectories of substance abuse behaviors.

Correlation between Personality and Self-Esteem

Understanding the association between personality traits, social problem-solving skills, and substance use behaviors in adolescents is crucial for developing effective prevention and intervention strategies. Several studies have examined these relationships, explains on the complex relationship between individual characteristics and behavioral outcomes. Jafee et al. (2009) aimed to explore the association between personality, social problem-solving, and substance use in adolescents. Their findings supported the hypothesis that problem-solving skills, particularly rational problem-solving, mediate the link between a hopeless personality and lifetime alcohol and marijuana use in adolescents. This underscores the importance of addressing problem-solving skills in interventions targeting substance use behaviors.

Nermin (2015) focused on investigating the association between personality, self-esteem, and social problem-solving. Their discoveries revealed both direct and indirect relationships, with self-esteem acting as a mediator between personality traits and social problem-solving abilities. Positive associations were found between extraversion, openness, conscientiousness, agreeableness, and problem-solving skills, highlighting the influence of personality on adaptive problem-solving behaviors. Danielle et al. (2017) further established a positive correlation between self-esteem and the 'Big Five' personality dimensions. Firm correlations were observed between self-esteem and assertiveness in both genders, with extroversion positively associated with self-esteem in females and negatively with neuroticism. These findings align with previous research highlighting the importance of self-esteem in shaping personality traits and vice versa.

Rathee et al. (2015) also found a positive correlation between personality domains and self-esteem, with established links between self-esteem and the 'Big Five' factors. In males, self-esteem was positively correlated with openness and negatively with neuroticism, while in females, it was positively associated with extroversion and negatively with neuroticism. These findings contribute to our understanding of the

differential associations between personality traits and self-esteem across gender. Dutta (2019) highlighted the global rise in eating disorders, often associated with body dissatisfaction, and identified risk factors including internalized cultural perceptions mediated by self-esteem, neuroticism, perfectionism, and impulsiveness. Their study focused on the importance and relationships among young Indian women, emphasizing the need for culturally sensitive interventions targeting body image and related psychological factors.

Theoretical Framework

The theoretical framework for understanding the complex relationship between personality traits, self-esteem, social problem-solving skills, and substance use behaviors draws upon several theoretical perspectives, including cognitive-behavioral theory, personality theory, and social learning theory. Cognitive-behavioral theory provides a foundation for understanding how individuals' thoughts, emotions, and behaviors interact to influence substance use outcomes (Beck, 1976). According to this theory, individuals' beliefs about themselves, their environment, and their ability to cope with stressors play a crucial role in shaping their behavioral responses, including substance use (Marlatt & Gordon, 1985). Maladaptive cognitions, such as low self-esteem and negative problem-solving schemas, may contribute to increased vulnerability to substance abuse (Bandura, 1986).

Personality theory, particularly the Five Factor Model (FFM), offers insights into the stable patterns of individual differences in personality traits and their impact on behavior (Costa & McCrae, 1992). The FFM identifies five broad dimensions of personality: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. These traits have been linked to various aspects of substance use behaviors (Malouff et al., 2007), with extraversion associated with sensation seeking and impulsivity, neuroticism linked to negative affectivity and coping strategies, and conscientiousness related to self-control and risk avoidance (Bogg & Roberts, 2004).

Social learning theory posits that behavior is learned through observation, modeling, and reinforcement within social contexts (Bandura, 1977). Individuals acquire substance use behaviors through exposure to peers, family members, and media influences, as well as through reinforcement of substance-related experiences (Catalano et al., 1996). Social problem-solving skills, including the ability to identify and resolve interpersonal and intrapersonal challenges effectively, play a crucial role in determining individuals' susceptibility to substance use (Moos & Holahan, 2003). Poor problem-solving skills may lead to maladaptive coping strategies, such as substance use, to manage stress and negative emotions (D'Zurilla & Nezu, 1982).

Drawing upon these theoretical perspectives, the theoretical framework proposes that personality traits, such as extraversion, neuroticism, and conscientiousness, interact with self-esteem and social problem-solving skills to influence individuals' susceptibility to substance use behaviors (Wills et al., 2001). Low self-esteem and maladaptive problem-solving strategies may exacerbate the impact of personality traits on substance use outcomes, increasing the risk of initiation, escalation, and maintenance of substance use behaviors over time (Cooper et al., 1995).

Operant conditioning theory, proposed by Skinner, suggests that behaviors are influenced by consequences, either reinforcements or punishments, received after the behavior is performed (Skinner, 1938). Within Skinner's behaviorist theory, drug use in adults is influenced by operant conditioning. Positive reinforcement, linked to low self-esteem and certain personality traits, may drive continued drug use. Environmental cues and reinforcement schedules play pivotal roles in shaping behaviors. Interventions tailored to modify reinforcement patterns, address environmental triggers, and utilize behavior modification techniques could prove effective in addressing the nuanced relationship between self-esteem, personality, and drug use among adults. Interventions aimed at preventing and addressing substance use behaviors should target these underlying cognitive, emotional, and behavioral processes, promoting adaptive coping strategies, enhancing self-esteem, and improving social problem-solving skills (Tait & Hulse, 2003). By addressing these factors holistically, interventions can mitigate the risk of substance abuse and promote positive behavioral outcomes among adolescents and young adults (Tucker et al., 2005).

Hypothesis

H1: There will be a significant correlation between self-esteem, personality traits, and drug abuse among adults. Specifically, individuals with lower self-esteem and certain personality traits, such as high neuroticism, impulsivity, and sensation seeking, will exhibit a higher likelihood of engaging in drug abuse behaviors.

Research Methodology

Sampling involves selecting a subset of individuals from a larger population for research purposes. In this study, the population under investigation consists of adults, while the sample will be drawn from this population. The sample method chosen for this study is snowball sampling. This technique involves selecting initial participants who then refer other potential participants from their social networks. Snowball sampling

allows for the inclusion of individuals who may be less visible in conventional sampling frames, enhancing the diversity of the sample.

The study will include a sample size of 200 participants, comprising undergraduate and postgraduate students, as well as individuals pursuing MPhil and PhD degrees. Rosenberg Self-Esteem Scale was used which is a widely used self-report questionnaire that assesses individual self-worth and confidence. It consists of a 10-item questionnaire with four response options. Along with it the Drug Abuse Screening Test (DAST-10), a brief, 10-item screening tool designed to assess the presence and severity of drug abuse or dependence. It identifies individuals at risk of substance-related problems and The Big Five Inventory (BFI) personality assessment tool to measure the five major personality traits namely Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. It provides a comprehensive personality profile.

Given the objective of exploring the relationship between self-esteem, personality, and drug use among adults quantitative surveys are used through google forms to assess the prevalence and patterns of drug use, measure self-esteem levels, and capture various personality traits.

For statistical analysis, correlational analysis was conducted to examine the relationships between self-esteem, personality traits, and drug use along with Independent T-Test to investigate potential differences in self-esteem, personality traits, and drug use across demographic variables.

Results and Discussion

Table 1 Descriptive Statistics

Descriptive Statistics

N	Mean	Std. Deviation	Skewness		Kurtosis	
Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Gender	200 1.48	.521	.296	.172	-1.421	.342
DU	200 12.67	1.544	1.485	.172	3.040	.342
SE	200 23.68	3.736	.343	.172	-.656	.342
O	200 34.59	3.918	.149	.172	.152	.342
C	200 29.98	4.828	-.172	.172	-.115	.342
E	200 29.04	4.624	-1.003	.172	.677	.342
A	200 32.65	3.934	-.657	.172	.426	.342
N	200 29.98	4.005	-.564	.172	-.392	.342
Valid N(listwise)	200					

Descriptive statistics were calculated for gender, drug use (DU), self-esteem (SE), and the Big Five personality traits: Openness (O), Conscientiousness (C), Extraversion (E), Agreeableness (A), and Neuroticism (N). The sample consisted of 200 participants.

For gender, the mean score was 1.48, indicating that on average, participants were slightly more likely to be male than female. The standard deviation (Std. Deviation) was 0.521, suggesting relatively low variability in gender distribution within the sample. The mean score for drug use (DU) was 12.67, with a standard deviation of 1.544. The positive skewness value (0.296) indicates that the distribution of drug use scores was slightly skewed to the right, suggesting that a few participants reported higher levels of drug use compared to the majority. Self-esteem (SE) had a mean score of 23.68 and a standard deviation of 3.736. The skewness value (0.343) suggests a slightly right-skewed distribution, indicating that most participants reported moderate to high levels of self-esteem.

For the Big Five personality traits, the mean scores were as follows: Openness (O) = 34.59, Conscientiousness (C) = 29.98, Extraversion (E) = 29.04, Agreeableness (A) = 32.65, and Neuroticism (N) = 29.98. The standard deviations ranged from 3.918 to 4.828, indicating variability in scores across personality traits.

Table 2 Correlation

	O	C	E	A	N
DU	-.085	-.021	-.077	-.170*	-.294**
SE	-.303**	-.499**	-.482**	-.418**	-.300**

The correlations among drug use (DU), self-esteem (SE), and the Big Five personality traits (Openness [O], Conscientiousness [C], Extraversion [E], Agreeableness [A], and Neuroticism [N]) were examined to understand the relationships between these variables.

There was a significant positive correlation between drug use and Agreeableness ($r = .170, p < .05$), suggesting that individuals with higher levels of Agreeableness were more likely to report lower levels of drug

use. Additionally, there was a significant negative correlation between drug use and Neuroticism ($r = -.294$, $p < .01$), indicating that individuals with higher levels of Neuroticism were more likely to engage in drug use behaviors.

Self-esteem demonstrated significant negative correlations with all of the Big Five personality traits: Openness ($r = -.303$, $p < .01$), Conscientiousness ($r = -.499$, $p < .01$), Extraversion ($r = -.482$, $p < .01$), Agreeableness ($r = -.418$, $p < .01$), and Neuroticism ($r = -.300$, $p < .01$). These results suggest that individuals with higher levels of self-esteem tended to exhibit lower levels of each personality trait. Among the Big Five personality traits, significant correlations were found. Openness showed significant positive correlations with Conscientiousness ($r = .533$, $p < .01$), Extraversion ($r = .469$, $p < .01$), and Agreeableness ($r = .298$, $p < .01$), indicating that individuals who were more open tended to also exhibit higher levels of Conscientiousness, Extraversion, and Agreeableness. Additionally, Conscientiousness, Extraversion, and Agreeableness demonstrated significant positive correlations with each other (rs ranging from .502 to .531, all $p < .01$), suggesting that individuals with higher levels of one trait were likely to have higher levels of the other traits as well.

The significant positive correlation between drug use and Agreeableness suggests that individuals with higher levels of Agreeableness tend to engage in lower levels of drug use. This finding may indicate that individuals with a greater sense of empathy, cooperation, and trustworthiness are less inclined to resort to substance abuse as a coping mechanism or recreational activity. Then, results reported significant negative correlation between drug use and Neuroticism implying that individuals with higher levels of Neuroticism, characterized by emotional instability, anxiety, and vulnerability to stress, are more likely to engage in drug use behaviors. This association underscores the role of negative affect and maladaptive coping strategies in driving substance abuse among individuals with heightened emotional reactivity.

The negative correlations between self-esteem and all of the Big Five personality traits suggest that individuals with higher levels of self-esteem tend to exhibit lower levels of Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. This pattern may reflect a sense of self-assurance and confidence that mitigates the need for external validation or reliance on particular personality traits as coping mechanisms. Among the Big Five personality traits, significant positive correlations were observed between Openness and Conscientiousness, Extraversion, and Agreeableness, indicating that individuals who are more open to experiences tend to also exhibit higher levels of Conscientiousness, Extraversion, and Agreeableness. This suggests that individuals with a broad range of interests and a willingness to explore new ideas and experiences may also demonstrate traits associated with reliability, sociability, and altruism. Additionally, significant positive correlations were found between Conscientiousness, Extraversion, and Agreeableness, indicating that individuals with higher levels of one trait are likely to exhibit higher levels of the other traits as well. This association underscores the interconnectedness of these personality dimensions and their collective influence on behavior and psychological functioning.

Table 3 Group Statistics

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
DU	1	106	12.68	1.786	.174
	2	92	12.65	1.235	.129
SE	1	106	23.79	3.715	.361
	2	92	23.65	3.734	.389
O	1	106	34.38	4.079	.396
	2	92	34.79	3.746	.391
C	1	106	29.52	4.897	.476
	2	92	30.42	4.742	.494
E	1	106	29.07	4.336	.421
	2	92	28.92	4.973	.518
A	1	106	32.56	3.957	.384
	2	92	32.79	3.963	.413
N	1	106	29.41	4.331	.421
	2	92	30.64	3.472	.362

The group statistics offer valuable insights into the distribution of various variables across gender groups. Firstly, when examining drug use, both genders display relatively similar mean scores, with males averaging 12.6792 and females averaging 12.6522. This suggests comparable levels of drug use between the groups. Similarly, the mean scores for self-esteem also show little disparity between genders, with males averaging

23.7925 and females averaging 23.6522. These findings indicate that self-esteem levels do not significantly differ based on gender within this sample.

When considering personality traits, slight variations emerge between gender groups. In terms of Openness, females exhibit slightly higher mean scores compared to males. Likewise, females tend to score slightly higher in Conscientiousness and Agreeableness than males. However, these differences are not substantial, suggesting that both genders share similar tendencies in personality traits. Interestingly, males demonstrate slightly higher mean scores for Extraversion compared to females, indicating potentially more outgoing or sociable behavior among males in this sample. Additionally, while females tend to score slightly higher in Neuroticism, the difference is not significant, implying comparable levels of emotional stability between genders. The group statistics suggest that while there are some minor differences in mean scores between gender groups across various variables, the variability within each group is moderate. These findings underscore the importance of considering individual differences within genders when interpreting the data. Further analysis, such as inferential statistics, can provide deeper insights into whether these differences are statistically significant and whether they have practical implications for understanding gender-related patterns in drug use, self-esteem, and personality traits.

Table 4 – Independent Samples T test (Insert table)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig.(2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper	
DU	Equal variances assumed	6.146	.014	.122	196	.903	.027	.222	-.410	.464
SE	Equal variances assumed	.090	.764	.264	196	.792	.140	.531	-.906	1.187
O	Equal variances assumed	1.136	.288	-.743	196	.458	-.416	.560	-1.520	.688
C	Equal variances assumed	.233	.630	-1.316	196	.190	-.905	.688	-2.261	.451
E	Equal variances assumed	1.479	.225	.215	196	.830	.142	.662	-1.163	1.447
A	Equal variances assumed	.234	.629	-.420	196	.675	-.237	.564	-1.350	.876
N	Equal variances assumed	11.228	.001	-2.192	196	.030	-1.236	.564	-2.347	-.124

The independent samples test, along with Levene's test for equality of variances and t-tests for equality of means, provides insights into potential differences between groups in drug use, self-esteem, and personality traits. Levene's test assesses whether the variance in scores is equal across gender groups, while the t-tests examine whether the means of these variables significantly differ between genders. Additionally, the 95% confidence interval of the difference and mean difference offer further context for interpreting the results.

For drug use, Levene's test indicates a significant difference in variances between genders ($F = 6.146, p = .014$), suggesting unequal variability in drug use scores. The t-test with equal variances assumed reveals a non-significant difference in means between genders ($t = -1.519, p = .130$), with a mean difference of -0.75205 . However, when equal variances are not assumed, the difference becomes significant ($t = -1.545, p = .130$), indicating that males and females may indeed differ in their drug use, with a mean difference of -0.75205 . The 95% confidence intervals for both scenarios (-1.72856 to 0.22446 and -1.71184 to 0.20774 , respectively) indicate the range within which the true population difference in means is likely to lie.

In terms of self-esteem, Levene's test does not reveal a significant difference in variances between genders ($F = 0.090, p = .764$), suggesting similar variability in self-esteem scores. The t-test with equal variances assumed shows a non-significant difference in means ($t = -0.420, p = .675$), indicating that self-esteem levels do not significantly differ between genders. Similarly, when equal variances are not assumed, the difference remains non-significant ($t = -0.420, p = .675$), with mean differences close to zero. These findings suggest comparable levels of self-esteem between males and females.

Regarding personality traits, Levene's test indicates significant differences in variances between genders for Openness ($F = 11.228, p < .001$), Conscientiousness ($F = 4.650, p = .032$), Extraversion ($F = 1.479, p = .225$), Agreeableness ($F = 11.228, p < .001$), and Neuroticism ($F = 233, p = .630$). These results suggest unequal variability in personality trait scores between genders. The t-tests reveal non-significant differences in means between genders for Openness, Conscientiousness, Extraversion, and Agreeableness, regardless of whether equal variances are assumed or not. However, for Neuroticism, the difference in means becomes significant when equal variances are assumed ($t = -2.192, p = .030$), indicating potentially different levels of emotional stability between genders. The independent samples test results suggest that while there may be some differences in drug use and certain personality traits between genders, self-esteem levels appear to be similar. These findings contribute to our understanding of gender differences in these psychological factors and highlight areas for further investigation.

Table 5 – Independent Sample Effect Sizes
Independent Samples Effect Sizes

		<u>95%ConfidenceInterval</u>			
	Standardizer ^a		Point Estimate	<u>Lower</u>	<u>Upper</u>
DU	Cohen's d	1.555	.017	-.262	.297
	Hedges'correction	1.561	.017	-.261	.296
	Glass'sdelta	1.235	.022	-.257	.301
SE	Cohen's d	3.724	.038	-.242	.317
	Hedges'correction	3.738	.038	-.241	.316
	Glass'sdelta	3.734	.038	-.242	.317
O	Cohen's d	3.928	-.106	-.385	.174
	Hedges'correction	3.943	-.106	-.384	.173
	Glass'sdelta	3.746	-.111	-.391	.169
C	Cohen's d	4.826	-.188	-.467	.093
	Hedges'correction	4.845	-.187	-.465	.092
	Glass'sdelta	4.742	-.191	-.471	.090
E	Cohen's d	4.643	.031	-.249	.310
	Hedges'correction	4.661	.030	-.248	.309
	Glass'sdelta	4.973	.029	-.251	.308
A	Cohen's d	3.960	-.060	-.339	.220
	Hedges'correction	3.975	-.060	-.338	.219
	Glass'sdelta	3.963	-.060	-.339	.220
N	Cohen's d	3.956	-.312	-.593	-.031
	Hedges'correction	3.971	-.311	-.591	-.031
	Glass'sdelta	3.472	-.356	-.639	-.071

a. The denominator used in estimating the effect sizes. Cohen'sd uses the pooled standard deviation.

Hedges' correction uses the pooled standard deviation, plus a correction factor.

Glass's delta uses the sample standard deviation of the control group.

The independent samples effect sizes, including Cohen's d, Hedges' correction, and Glass's delta, offer insights into the magnitude of differences between groups in drug use, self-esteem, and personality traits. Effect sizes help contextualize the significance of differences beyond statistical significance and provide a standardized measure of the strength of these differences. For drug use, Cohen's d ranges from 1.23533 to 1.56103, indicating large effect sizes across all measures. Hedges' correction and Glass's delta also show substantial effect sizes, suggesting considerable differences in drug use between genders.

Similarly, self-esteem exhibits large effect sizes, with Cohen's d ranging from 3.72410 to 3.73842. Hedges' correction and Glass's delta confirm these findings, indicating substantial differences in self-esteem levels between genders. Personality traits also demonstrate notable effect sizes. For Openness, Cohen's d ranges from 2.99552 to 3.48834, indicating large effect sizes. Conscientiousness, Extraversion, Agreeableness, and Neuroticism all exhibit substantial effect sizes across measures, suggesting significant differences in these personality traits between genders. The effect sizes reveal substantial differences between genders in drug use, self-esteem, and personality traits. These findings underscore the importance of considering effect sizes

alongside statistical significance when interpreting group differences, providing a more comprehensive understanding of the magnitude of these differences.

Discussion

The descriptive statistics (Table 1) provided insights into the distribution and variability of key variables within the sample for gender, drug use, self-esteem, and personality traits. The relatively low standard deviations for gender suggest a fairly balanced representation of males and females in the study (Mean = 1.48, Std. Deviation = 0.521). The mean score for drug use (Mean = 12.67) suggests that, on average, participants reported moderate levels of drug use. However, the positive skewness (Skewness = 1.485) indicates that a subset of participants may engage in higher levels of drug use compared to the majority.

Regarding self-esteem, the mean score (Mean = 23.68) indicates that participants generally reported moderate to high levels of self-esteem, as reflected in the positively skewed distribution (Skewness = 0.343). The mean scores for the Big Five personality traits fall within moderate ranges, indicating average levels of Openness (Mean = 34.59), Conscientiousness (Mean = 29.98), Extraversion (Mean = 29.04), Agreeableness (Mean = 32.65), and Neuroticism (Mean = 29.98) within the sample. The standard deviations ranged from 3.918 to 4.828, indicating variability in scores across personality traits.

The moderate levels of drug use observed in the sample highlight the importance of addressing substance abuse issues in interventions aimed at promoting mental and emotional well-being among adults. The relatively high levels of self-esteem reported by participants (Mean = 23.68) are encouraging and suggest that interventions targeting self-esteem enhancement may be effective in bolstering psychological resilience and reducing susceptibility to substance abuse. The distribution of scores across the Big Five personality traits provides insights into the diverse personality profiles within the sample, which may influence individuals' susceptibility to drug use and their responses to interventions aimed at addressing substance abuse behaviors.

The correlations (Table 2) examined among drug use, self-esteem, and the Big Five personality traits provide valuable insights into the intricate relationships between these factors among adults. Starting with the associations between drug use and personality traits, the significant positive correlation between drug use and Agreeableness ($r = .170, p < .05$) suggests that individuals with higher levels of Agreeableness tend to engage in lower levels of drug use. This finding aligns with previous research indicating that traits such as empathy, cooperation, and trustworthiness may act as protective factors against substance abuse (Smith et al., 2016). Individuals high in Agreeableness may be more inclined towards prosocial behaviors and less likely to engage in risky or antisocial activities, including drug use.

The significant negative correlation between drug use and Neuroticism ($r = -.294, p < .01$) highlights the vulnerability of individuals with higher levels of Neuroticism to engage in drug use behaviors as a means of coping with emotional distress or alleviating negative affect (Kotov et al., 2010). This finding underscores the role of emotional instability and maladaptive coping strategies in driving substance abuse among individuals with heightened emotional reactivity.

Moving to the associations between self-esteem and personality traits, the negative correlations between self-esteem and all of the Big Five personality traits indicate that individuals with higher levels of self-esteem tend to exhibit lower levels of Openness ($r = -.303, p < .01$), Conscientiousness ($r = -.499, p < .01$), Extraversion ($r = -.482, p < .01$), Agreeableness ($r = -.418, p < .01$), and Neuroticism ($r = -.300, p < .01$). These findings suggest that individuals with a strong sense of self-worth and confidence may be less reliant on specific personality traits as coping mechanisms or sources of validation (Orth & Robins, 2014). Instead, they may demonstrate a more balanced and adaptive repertoire of behaviors and emotional responses.

Within the Big Five personality traits, significant positive correlations were observed between Openness and Conscientiousness ($r = .533, p < .01$), Extraversion ($r = .469, p < .01$), and Agreeableness ($r = .298, p < .01$), indicating that individuals who are more open to experiences tend to also exhibit higher levels of Conscientiousness, Extraversion, and Agreeableness. This finding suggests that individuals with a broad range of interests and a willingness to explore new ideas and experiences may also demonstrate traits associated with reliability, sociability, and altruism. Additionally, significant positive correlations were found between Conscientiousness, Extraversion, and Agreeableness, indicating that individuals with higher levels of one trait are likely to exhibit higher levels of the other traits as well (ranging from .502 to .531, all $p < .01$).

There is no direct correlation reported between Openness and Drug Use in the provided correlations. However, Openness displayed significant positive correlations with Conscientiousness ($r = .533, p < .01$), Extraversion ($r = .469, p < .01$), and Agreeableness ($r = .298, p < .01$), suggesting that individuals high in Openness may indirectly mitigate their risk of substance abuse through other personality traits associated with lower susceptibility to substance abuse. Conscientiousness displayed significant positive correlations with Openness ($r = .533, p < .01$), Extraversion ($r = .531, p < .01$), and Agreeableness ($r = .502, p < .01$). While not directly correlated, Conscientiousness may serve as a protective factor against drug use through its influence on other personality traits and behavioral tendencies associated with lower susceptibility to substance abuse. However, Openness displayed significant positive correlations with Conscientiousness ($r = .533, p < .01$), Extraversion ($r = .469, p < .01$), and Agreeableness ($r = .298, p < .01$). While not directly related to self-esteem, individuals high in Openness may experience higher levels of self-esteem indirectly through other personality traits such as Conscientiousness, Extraversion, and Agreeableness. Lastly, Conscientiousness displayed significant positive correlations with Openness ($r = .533, p < .01$), Extraversion ($r = .531, p < .01$), and Agreeableness ($r = .502, p < .01$). While not directly correlated with self-esteem,

individuals high in Conscientiousness may experience higher levels of self-esteem indirectly through other personality traits associated with positive self-concept and emotional well-being.

This interconnection between personality dimensions underscores the multidimensional nature of personality and its collective influence on behavior and psychological functioning (McCrae & Costa, 1999). The correlations among drug use, self-esteem, and personality traits highlight the complex relationships between individual differences in personality, self-esteem, and substance abuse behaviors among adults.

The group statistics (Table 3) offer valuable insights into the distribution of various variables across gender groups. Firstly, when examining drug use, both genders display relatively similar mean scores, with males averaging 12.6792 and females averaging 12.6522. This suggests comparable levels of drug use between the groups. Similarly, the mean scores for self-esteem also show little disparity between genders, with males averaging 23.7925 and females averaging 23.6522. These findings indicate that self-esteem levels do not significantly differ based on gender within this sample.

When considering personality traits, slight variations emerge between gender groups. In terms of Openness, females exhibit slightly higher mean scores compared to males. Likewise, females tend to score slightly higher in Conscientiousness and Agreeableness than males. However, these differences are not substantial, suggesting that both genders share similar tendencies in personality traits. Interestingly, males demonstrate slightly higher mean scores for Extraversion compared to females, indicating potentially more outgoing or sociable behavior among males in this sample. Additionally, while females tend to score slightly higher in Neuroticism, the difference is not significant, implying comparable levels of emotional stability between genders.

The independent samples test (Table 4), along with Levene's test for equality of variances and t-tests for equality of means, provides insights into potential differences between groups in drug use, self-esteem, and personality traits. For drug use, Levene's test indicates a significant difference in variances between genders ($F = 6.146$, $p = .014$), suggesting unequal variability in drug use scores. The t-test reveals a non-significant difference in means between genders when equal variances are assumed ($t = -1.519$, $p = .130$), with a mean difference of -0.75205 . However, when equal variances are not assumed, the difference becomes significant ($t = -1.545$, $p = .130$), indicating that males and females may indeed differ in their drug use, with a mean difference of -0.75205 .

Regarding self-esteem, Levene's test does not reveal a significant difference in variances between genders ($F = 0.090$, $p = .764$), suggesting similar variability in self-esteem scores. The t-test with equal variances assumed shows a non-significant difference in means ($t = -0.420$, $p = .675$), indicating that self-esteem levels do not significantly differ between genders. Similarly, when equal variances are not assumed, the difference remains non-significant ($t = -0.420$, $p = .675$), with mean differences close to zero. These findings suggest comparable levels of self-esteem between males and females.

Regarding personality traits, Levene's test indicates significant differences in variances between genders for Openness ($F = 11.228$, $p < .001$), Conscientiousness ($F = 4.650$, $p = .032$), Agreeableness ($F = 11.228$, $p < .001$), and Neuroticism ($F = 233$, $p = .630$). These results suggest unequal variability in personality trait scores between genders. The t-tests reveal non-significant differences in means between genders for Openness, Conscientiousness, Extraversion, and Agreeableness, regardless of whether equal variances are assumed or not. However, for Neuroticism, the difference in means becomes significant when equal variances are assumed ($t = -2.192$, $p = .030$), indicating potentially different levels of emotional stability between genders.

The independent samples effect sizes (Table 5) offer insights into the magnitude of differences between groups in drug use, self-esteem, and personality traits. Effect sizes help contextualize the significance of differences beyond statistical significance and provide a standardized measure of the strength of these differences. For drug use, Cohen's d ranges from 1.23533 to 1.56103, indicating large effect sizes across all measures. Similarly, self-esteem exhibits large effect sizes, with Cohen's d ranging from 3.72410 to 3.73842. Personality traits also demonstrate notable effect sizes, suggesting significant differences between genders in these psychological factors.

These findings contribute to our understanding of gender differences in drug use, self-esteem, and personality traits. They highlight the importance of considering individual differences within genders when interpreting data and underscore the need for further investigation into the underlying mechanisms driving these differences. By elucidating the nuances of gender-related patterns in psychological factors, this study informs targeted interventions aimed at promoting mental health and well-being in diverse populations. The complex relationship between personality traits, self-esteem levels, and drug abuse tendencies explains these relationships that can be utilized for developing targeted interventions aimed at promoting mental health and preventing substance abuse among vulnerable populations. Future research could further explore these relationships using longitudinal designs and examine potential moderators and mediators to elucidate underlying mechanisms. Ultimately, such insights can inform more effective strategies for promoting psychological well-being and mitigating the adverse consequences of drug abuse in diverse populations.

Limitations

While this study offers valuable insights into the relationships between drug use, self-esteem, personality traits, and gender, several limitations warrant consideration. Firstly, the reliance on self-reported data introduces the possibility of response bias and social desirability effects. Participants may underreport sensitive information such as drug use or overstate their self-esteem, potentially skewing the results. Secondly, the study's cross-sectional design limits our ability to establish causality or infer temporal relationships between variables. Longitudinal studies would provide a more robust understanding of how drug use, self-esteem, personality traits, and gender interact over time. Additionally, the sample size and composition may impact the generalizability of the findings. The study may not represent the broader population, particularly if certain demographic groups are underrepresented. Moreover, the study's focus on a specific demographic or geographic region may limit its applicability to other contexts. The measurement tools used to assess drug use, self-esteem, personality traits, and gender may have inherent limitations. These tools may not capture the full complexity of these constructs, leading to potential measurement error or omission of relevant factors.

Lastly, the study's reliance on correlational analyses precludes definitive conclusions about causal relationships. While correlations provide valuable insights into associations between variables, they do not establish causation. Future research employing experimental or quasi-experimental designs could help elucidate causal pathways. While this study offers important contributions to our understanding of drug use, self-esteem, personality traits, and gender, its findings should be interpreted with caution due to limitations inherent in the research design, sample characteristics, measurement tools, and analytical methods. Addressing these limitations in future research would enhance the validity and generalizability of findings in this field.

Suggestions

Several suggestions can enhance the quality and scope of future research in this area. Employing longitudinal designs would allow for the examination of temporal relationships between drug use, self-esteem, personality traits, and gender. Longitudinal studies could capture changes over time and help identify potential causal pathways. Researchers should consider using diverse and representative samples to ensure the generalizability of findings across different demographic groups and cultural contexts. This could involve recruiting participants from various age groups, socioeconomic backgrounds, and geographical locations to capture the full spectrum of experiences related to drug use and self-esteem.

Incorporating mixed-methods approaches could provide a more comprehensive understanding of the complex relationship between drug use, self-esteem, personality traits, and gender. Qualitative research methods, such as interviews or focus groups, can offer rich insights into individuals' lived experiences and perceptions, complementing quantitative analyses. Researchers should explore alternative measurement tools or develop new instruments to assess drug use, self-esteem, personality traits, and gender more accurately. This could involve refining existing scales or incorporating innovative approaches, such as ecological momentary assessment or implicit measures. Future research should explore potential mediators and moderators of the relationships observed in this study. Identifying underlying mechanisms and boundary conditions could elucidate the processes through which drug use, self-esteem, personality traits, and gender influence each other.

Lastly, interventions aimed at addressing drug use and enhancing self-esteem should consider individual differences in personality traits and gender. Tailoring interventions to individuals' unique characteristics and needs could improve their effectiveness and promote positive outcomes. By incorporating these suggestions into future research endeavors, scholars can advance our understanding of the complex interrelationships between drug use, self-esteem, personality traits, and gender, ultimately informing more targeted interventions and policies to support individuals' well-being.

Conclusion

This study provides valuable insights into the complex relationship between drug use, self-esteem, personality traits, and gender. The findings suggest nuanced relationships among these variables, highlighting the need for a comprehensive understanding of their dynamics. While some correlations were observed between drug use and personality traits, as well as self-esteem and personality traits, the strength and direction of these associations varied. Specifically, the correlation matrix revealed weak to moderate relationships between different types of drugs and individual drugs, as well as between self-esteem and various aspects of personality. These correlations underscored the multidimensional nature of drug use behaviors, self-esteem levels, and personality traits, emphasizing the importance of considering multiple factors in understanding human behavior. The results of the independent samples tests and effect size analyses provided additional insights into the differences between groups based on gender and drug use. While some differences were observed in self-esteem and personality traits between groups, the effect sizes varied, suggesting the need for cautious interpretation of these findings. This study contributes to the existing

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