



## **Relationship between Personality Functioning and Relapse Risk among Substance Use Addicts in Langata Sub-County, Nairobi, Kenya**

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### **ABSTRACT**

Substance use rehabilitation among individuals in recovery is significant to parents, peers, therapists and other stakeholders across the globe. Despite advances in addiction treatment, relapse rates remain extremely high. This study examined the relationship between personality functioning and relapse risk among substance use addicts in Langata sub-county, Nairobi, Kenya. The study was grounded on Interpersonal theory and Relapse prevention theory. The study employed correlational research design. The study had a target population of 144 which was utilized as a sample size through census method because it was small. This study utilized two standardized tools, the Levels of Personality Functioning Scale (LPFS) and the Stimulant Relapse Risk Scale (SRRS), to collect data. The data was analyzed using descriptive statistics (percentages, frequencies) and inferential statistics and particularly Pearson Correlation coefficient. Results showed strong positive relationship ( $n = 125$ ,  $r = .683$ ,  $p = .000$ ) between personality functioning and stimulant relapse risk among the substance use addicts in Langata Sub-county, Nairobi, Kenya. Since the study found that majority of the participants had a healthy personality functioning, the study recommends to substance addiction counselors to explore the underlying issues to addiction among substance use addicts brought to rehabilitation centers in Langata Sub-County. This is because it would be expected that persons with personality functioning are likely not to have problem with substance use. The addiction counselors also need to be aware of the role demographic characteristics to relapse risk when they are carrying out assessment and offering counseling services to substance use clients.

**Key Words: Personality functioning, Relapse risk, Substance use Addicts, Langata Sub-county, Nairobi, Kenya**

### **INTRODUCTION**

Substance use rehabilitation and treatment failure constitute significant public health concerns impacting the individuals, family members, and their communities globally. The World Health Organization (2018) has identified substance use disorders and mental health as the foremost worldwide cause of disability. Data from the National Survey on Drug Use and Health (2018) and the Substance Abuse and Mental Health Services Administration (SAMHSA, 2019) estimate that approximately 20.3 million Americans face challenges that are alcohol and drug related or use. Despite the availability of advanced treatment modalities, relapse rates persist at around 40-60% within the first-year post-treatment. Contributing factors to recovery outcomes include relapse risk, the intense craving for substance use during rehabilitation, and anxiety, which frequently acts as a relapse trigger. SAMHSA (2019) highlights the inconsistency in the healthcare system's approach, where patient relapses in substance use are often viewed as treatment failures. Notably, the rates and risk of relapse symptoms for substance use disorders are high all-time, as stated by National Institute on Drug Abuse (2018). Despite this, substance use rehabilitation has remained a complex process which is influenced by various psychological and behavioral factors. Among these, personality functioning has a crucial role in determining relapse risk of an individual. It is therefore important to understand the intricacies of personality functioning and relapse risk in substance use rehabilitation to be able to develop effective strategies that improves treatment outcomes.

Consequently, personality functioning is a critical factor in the relapse risk and the recovery process for individuals with substance use disorders (SUD). In recent research by DeLucia et al. (2024) that involved 205 participants at a treatment facility in South Florida, USA, findings indicated that low self-esteem and low self-worth significantly heightens the risk of relapses, as negative self-perceptions can exacerbate substance use behaviors, fostering a detrimental relationship between self-worth, addiction and relapse tendency. Further findings by Xia et al. (2022) in research carried out in China among 282 SUD recoveries from two rehabilitation centers suggested that additional factors including age, education levels, and marital status, may also influence individual self-esteem levels, thereby increasing the risk of relapse. Implementing effective interventions to bolster self-esteem and promote a positive self-image is essential for enhancing resilience in substance use recovery and improving overall mental health outcomes.

Relapse risk is defined as the likelihood of resuming alcohol or drug use after a period of abstaining, influenced by different factors such as emotional distress, triggers, and the availability of support networks. A study by Anderssen et al. (2018), conducted in Norway with 188 participants in a residential rehabilitation facility indicated that relapse risk remains a substantial challenge in the recovery from substance use disorders (SUD), with rates of relapse ranging between 40% and 60% within the first year following residential treatment. Similarly, another quantitative study conducted in Australia by Wang (2022), among 42 participants in a recovery facility, the findings identified deficient coping mechanisms and elevated stress levels as key contributors to relapse. Recently, research by Nichols et al. (2021) found increased focus on integrating social treatment approaches, such as group therapy, family-

centered interventions, and peer support systems, into the biomedical and psychological treatment paradigms for SUD. In another study, Mills et al. (2022) argued that such interventions enhance personality functioning and mitigate feelings of isolation, which exacerbate cravings and relapse risk. Furthermore, research conducted in Japan by Yamashita et al. (2021), with 52 participants indicated that improved communication within personality functioning facilitated emotional regulation, thereby reducing cravings and anxiety associated with relapse. Tracy and Wallace (2016) found that sustained interpersonal support during treatment significantly decreases the risk of relapse and cravings.

In Poland, Chmielowiec and Boron (2020) conducted a study to examine individual dimensions of personality in the context of relapse risk. The study comprised of 301 individuals addicted to psychoactive drugs and who were receiving treatment in two addiction therapy centers in Poland. Participants were divided into two groups, those who had one prior admission, and those who had been admitted at least twice for rehabilitation. Findings among those with one prior admission had varying percentages of neuroticism (NF NEUR) as follows: 8.55% exhibited lower-level intensity, 40.13% moderate level intensity, and 51.32% high level intensity. Elevated scores on the Nervousness Scale of the NEO-FFI inventory significantly influence the intensity of addiction and the likelihood of relapsing.

In Manila, Philippines, Ronquillo et al. (2024) conducted a study aimed at developing a deeper understanding of personality typologies and the relapse risk among Filipinos with SUD in rehabilitation facilities. The mixed method study involved both descriptive and phenomenological designs. NEO-Personality Inventory 3 (NEO-PI-3) was used to measure Nervousness, and Stimulant Risk Relapse Scale (SRRS) was used to measure SUDs. The study included 161 participants, between ages 18 to 69 ( $M = 34.8$ ;  $SD = 9.1$ ). Findings of the study revealed four themes associated with risk of relapse: Avoidance coping, resistance to change, a preference for social interactions, and perceived lack of social support.

Furthermore, research conducted in Greece by Papamalis et al. (2020), explored the impact of personality functioning on both the initiation of substance use and relapse, while also examining whether specific personality traits predicted sustained sobriety, treatment retention, or relapse. The study utilized a sample of 340 individuals receiving inpatient treatment. Findings indicated that dysfunctional characteristics of personality, such as deficits in self-control and social concordance, were strongly related with an increased risk of relapse. Specifically, individuals exhibiting low self-regulation, reduced tolerance, heightened impulsivity, and impaired emotional regulation were three times at relapse risk post-discharge in comparison to those who had greater self-regulatory capacities. The findings underscore the predictive role of personality functioning in SUD recovery and relapse, highlighting the importance of early assessment of personality traits to enhance long term recovery and treatment outcome prospects.

Groundbreaking research by Steingrimsson et al. (2020) in Sweden assessed the relationship between AUD relapse and characteristics of Cooperativeness (CO) and self-directedness (SD) among a cohort of twins and their parents. This research involved 6,917 adolescents, with 58% being female. Participants completed the AUDIT questionnaire and the DUDIT questionnaire, alongside the (TCI), which included SD and CO subscales to assess individual goals, values, life direction, and character maturity. The study results revealed that total AUDIT scores were negatively correlated with SD ( $r = -0.18$ ,  $p < 0.001$ ) and CO ( $r = -0.15$ ,  $p < 0.001$ ), as were total DUDIT scores with SD ( $r = -0.11$ ,  $p < 0.001$ ) and CO ( $r = -0.08$ ,  $p < 0.001$ ). Higher AUDIT scores ( $>15$ ) and DUDIT scores ( $>7$ ) were significantly associated with low SD scores (ORs 4.1 and 4.5,  $p < 0.001$ ) and low CO scores (ORs 3.5 and 4.5,  $p < 0.001$ ). The study concluded that individuals with low levels of self-directedness and lower cooperativeness levels are most likely to engage in substance use, supporting the hypothesis that characteristics of personality may be used in identifying individuals at high risk of relapse in AUD. The study shows similarities with the current study; however, the current study investigated deeper on personality functioning including interrelationships of empathy and intimacy.

Zeng and Tan (2021) carried out a study in China to assess the association between family functioning, psychological capital and the tendency for relapse risk in individuals battling drug addiction. Using a quantitative cross-sectional survey, the researchers collected data from 900 participants at three mandatory isolation centers, achieving 842 returned responses, which corresponds to a recovery rate of 93.56%. The study sample consisted of 594 men and 248 women, with average age of 34.56 years ( $SD = 8.29$ ). The findings suggested that family functioning was significant and negatively predicted relapse tendency ( $\beta = -0.12$ ,  $p < 0.001$ ) and significantly positively predicted psychological capital ( $\beta = 0.15$ ,  $p < 0.001$ ). Moreover, psychological capital significantly negatively predicted relapsed risk tendency ( $\beta = -0.23$ ,  $p < 0.001$ ). While the study focused on familial interactions, the current study included self-functioning and intra-relations as indicators of personality functioning.

A study carried out in the United Arab Emirates (UAE), by Mhaidat et al. (2024) assessed relapse risk and resilience among 368 patients treated at The National Rehabilitation Center (NRC) in Abu Dhabi with 27.2% readmitted at least once. Researchers used a quantitative, cross-sectional correlational survey to evaluate the relationship between relapse risk and resilience in individuals battling SUD. All outpatients and admitted individuals at the NRC from June 2022 to March 2023 participated, yielding an approximately 40% participation rate. A total of 286 Emirati individuals with SUD completed the questionnaires. The findings indicated a mean resilience score of 72.92 ( $SD = 16.99$ ) and a mean relapse risk score of 59.07 ( $SD = 12.23$ ). There was correlation between relapse risk and resilience as findings showed a negative, low-to-moderate significance in all subscales ( $r = -0.486$ ). While the study focused on the aspect of resilience in substance use rehabilitation, the current study included self and interpersonal aspects of functioning.

In Sub-Saharan Africa, research on the influence of personality functioning on intimate relationships is limited. However, there is a study by Woolf-King et al. (2019) from South Africa that examined the impact of alcohol use on relationship behaviors that could elevate risks of HIV infections and other harms, such as domestic violence and relapse risk to AOD. This dyadic analysis involved 443 heterosexually active couples (886 participants) from rural South Africa. The study investigated the relationship between the male partner's alcohol intake (categorized as abstinent, hazardous and nonhazardous) and both reports from partners of relational trust, intimate engagements, mutual communication, and marital satisfaction. The findings indicated that women with male partners who drank hazardously demonstrated notably greater levels of intimacy ( $p < .05$ ) relative to abstainers, alongside a marked increase in demand/withdraw communication patterns ( $p < .001$ ). Conversely, men classified as hazardous drinkers exhibited substantially lower levels

of relational trust ( $p < .01$ ) when compared to abstainers. The study did not indicate the level of hazardous drinking, and how less communication was a contributor to relapse. The current study interrogated the relationships of constructs within the self and interpersonal functioning.

In Ghana, West Africa, Nkyi and Ninnoni (2020) conducted a regional study to investigate the relationship between depression, anxiety, loneliness and purpose in life among individuals receiving treatment at Ankaful Psychiatric Hospital. This quantitative study utilized the Beck Depression Inventory-II, PIL, Beck Anxiety Inventory and Loneliness Scale (R-UCLA). A descriptive and correlational design, targeting 200 individuals, with 192 respondents completing the instruments. The findings of the study revealed that there was no statistically significant correlation between depression and loneliness ( $r = 0.030$ ,  $p = 0.567$ ). Nonetheless, a significant negative association was observed between purpose in life and depression ( $r = -0.514$ ,  $p < 0.001$ ), while a statistically significant positive relationship emerged between loneliness and purpose in life ( $r = 0.147$ ,  $p = 0.004$ ).

A regional study conducted in South Africa by Dzikiti et al. (2020) sought to determine whether personality functioning that associated with successful substance use rehabilitation and retention of recovery among substance use addicts. The site used was Weskoppies Hospital, at the Substance Rehabilitation Unit (SRU) offering a 6-week treatment plan. All individuals admitted at the SRU were included ( $n = 119$ ). Findings showed that 39 individuals who were admitted involuntarily, and another 112 who were unmarried were most challenged with the completion and retention of treatment outcomes. The findings therefore suggest that dysfunctional family relationships may be linked to increased substance use and relapse.

Similarly, in Nigeria, Adejo et al. (2018), conducted a study among substance use addicts under treatment at the Federal Neuro-psychiatric Hospital Lagos, to establish the association between personality characteristics and risk of relapse after treatment. The qualitative study included 40 substance use addicts. The findings of this study showed that successful recovery depended on their own perception of the state of their condition, how the individual deals with their own issues, their thought processes, feelings and behaviors. Treatment outcomes also depended on the relationship the individual had with the clinical team. In Uganda, Kalani et al. (2021), conducted a study to establish the prevalence of AUD relapse and its association to social support and self-efficacy. The study at Butabika Hospital included 269 respondents who were undergoing treatment for AUD between January 2016 and December 2017. All the participants were tested for AUD relapse with SCID-5 scale. The results indicated that participants who had higher perceived social support had less likely chance of AUD relapse. The findings showed a prevalence of relapse to 63.3% (170), with 167 relapsed (98%) to severe AUD. The findings also indicated that married participants were at higher risk of relapse than those who were single. These findings also were an indicator showing that poor interpersonal relationships and social isolation are predictors of increased cravings and relapse risk among individuals in rehabilitation.

Kopel et al. (2024) conducted a study to examine the prevalence of alcohol abuse among Boda Boda riders in Juba Town South Sudan. The study had a target population of 1200 boda boda riders in Juba town with a sample size of 291 participants. The findings showed that 84.8 % of the boda boda had never used alcohol containing alcohol. However, the results reported 15 % of the boda boda riders taking alcohol on a monthly basis. The alcohol abuse can easily be influenced by personality functioning leading to relapse risk.

Moreover, Kopel et al. (2024) carried out a study to examine the strategies to curb alcohol abuse among boda boda riders in Juba, South Sudan with a sample size of 191 participants. The study revealed that to address the problem of alcohol abuse requires multifaceted strategies, including early screening, prevention efforts, regulatory measures, taxation, awareness campaigns, and promotion of healthy activities among the Boda boda riders. Strategies have been critical in preventing alcohol abuse among the substance abuse addicts.

Studies in Kenya indicate that relapse rates among individuals undergoing treatment for SUDs vary widely. A study in Nairobi conducted by NACADA (2019) revealed that 39.2% of inpatient alcohol rehabilitation patients were readmitted within a year of completing treatment. Broader estimates indicate the rate of relapse range between 20% to 80%, in accordance with the factors such as what type of substance the individual uses, treatment duration, and the quality of rehabilitation programs. Contributing factors include inadequate follow-up care, social stigma, unemployment, peer pressure, and family-related stress. Structured aftercare programs have shown promise in reducing relapse rates by addressing triggers and promoting social support. Furthermore, studies in Kenya highlight the significance of personality functioning during substance use recovery.

A quantitative study conducted in Kiambu County by Wainaina (2020) sought to examine causes that influence alcohol relapses among the individuals in the ASATREP program. The case control study design included 134 relapsed individuals and 134 individuals who did not relapse in a 6-month period after study. Study findings showed that individuals who had relapsed back to alcohol abuse exhibited a significantly high Penn alcohol craving score (PACS) (mean 25.3) in comparison to those who had not relapsed (mean 8.8),  $p < 0.001$ . The study findings therefore concluded that relapse individuals have an extremely high craving score for alcohol and that there was need for AUD intervention.

Also, another local quantitative study by Kibera (2023) conducted in Nairobi examined the relationship between resilience in families and the risk of relapse among individuals discharged from substance use rehabilitation and attending support groups in Nairobi. The study, using cross-sectional research design, involving 93 participants also selected those who were attending after care services of AA programs within Nairobi. The sampling method used Family Resilience Scale and AWARE tools for data collection. Findings showed that individuals with high resilience had lower relapse risk for alcohol and substance use disorders (ASUD).

A similar investigation by Nyamoma et al. (2024) in Kakamega County explored the impact of personality traits on the efficacy of substance use disorder (SUD) prevention strategies among secondary school students. Using a mixed-method approach, this study was grounded in social cognitive theory and adopted a cross-sectional research design. The sampling framework incorporated multistage, simple random, and purposive sampling techniques, encompassing a study cohort of 381 students, 108 teachers, 53 Heads of Guidance and Counseling Departments, and 12 sub-county directors. Data collection instruments included structured questionnaires, focus group discussion guides, and interview guides. Findings demonstrated a statistically significant association between personality characteristics and the effectiveness of SUD prevention measures, as evidenced by the statistical results [ $F(1,$

269) = 80.959,  $p < .05$ ] and  $[F(1, 58), p < .05]$ . Moreover, the study highlighted the critical role of teachers in providing emotional support to students, significantly contributing to the success of substance abuse prevention efforts in secondary schools. This study was conducted in a school setting; the current study will be conducted in rehabilitation centers.

In addition, another Kenyan study conducted by Wagithi and Ndurumo (2020) in Limuru Sub-County, looking at the relationship between familial support, and the risk of relapse or recidivism and self-efficacy in drug use among youths in rehabilitation treatment was examined. This quantitative study employed a correlational research design, recruiting 80 youths recovering from drug addiction through snowball sampling across five recovery centers. Data collection used questionnaires, specifically the Family Support and Strain tool and the Drug Avoidance Self-Efficacy Scale. In the study, 65% of participants were male, while 35% were female. A significant relationship was identified between family support and self-efficacy ( $\chi^2 = 19.446$ ;  $p = 0.026 < 0.05$ ). Furthermore, family support demonstrated a notable negative correlation with relapse ( $r = -0.628$ ;  $p = 0.032 < 0.05$ ), underscoring the critical role of familial support in mitigating the risk of relapse. Further analysis revealed that increasing family support raised the youths' self-efficacy by 40.7% and decreased the chances of relapse by 38%. While the study focused more on efficacy of interrelationships, the current study also included self-identity and self-direction as indicators of self-functioning.

Family environment significantly influences treatment outcomes for the addict with alcohol use disorders (AUD) and can also serve as a potent trigger for relapse risk. Studies suggest that familial environments characterized by highly expressed emotion (EE) and high levels of criticism contribute to the individual's ability to maintain abstinence or face relapse risk post-treatment. A local study conducted by Githae (2019), conducted in Kiambu examined the relationship between harmful and non-harmful criticisms as predictors of relapse risk among individuals diagnosed AUD. This quantitative, cross-sectional study focused on the treatment goals of AUD patients in an inpatient facility in Kiambu County. The target population consisted of 137 individuals, resulting in 119 participants. Participants were assessed using AUDIT tool. Pearson correlation analysis revealed there was a statistically significant relationship of harmful criticism ( $p = 0.000 < 0.05$ ) and a strong predictive value ( $r^2 = .285$ ) to risk of relapse. Although the study focused on self-functioning alone, the current study will explore more positive interrelationships and how they enhance sobriety post recovery from SUD treatment.

Ndinda and Wambua (2023) conducted a qualitative study to explore the role of family functioning in substance addiction among emerging adults in Ongata Rongai Sub County, Kajiado County, Kenya. The study utilized exploratory research design and purposive sampling technique with a sample size of 20 participants. The findings showed that lack of modeling from the parents, poor parenting, lack of availability of parents and availability of drugs were contributing factors to substance abuse among the emerging adults. The family functioning can have a great role to personality functioning and relapse risk. In addition, Ndinda and Wambua (2023) conducted another study to explore the strategies to curb substance addiction among emerging adults in Ongata Rongai Sub County, Kenya. The study utilized a sample size of 20 participants. Through thematic analysis, the study identified guidance and counseling, empowerment with skills, sensitization and creation of job opportunities as strategies that can be used to curb substance addiction among the emerging adults. Strategies are key in preventing relapse risk among the substance abuse addicts.

The topic under study is not fully researched in Langata Sub County. There remains a clear gap in understanding the relationship between personalities functioning with relapse risk among individuals undergoing residential substance use treatment in Langata Sub-County. This study sought to address the gap by establishing the relationship between personality functioning and relapse risk among individuals who are recovering from SUD within Langata Sub County.

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## METHODOLOGY

The study employed correlational research design to examine the relationship between personality functioning and relapse risk among substance addicts. This study was conducted in Langata Sub County, a constituency of the larger Nairobi Metropolitan. Langata Sub County is an electoral division within Nairobi City County, which encompasses the southern and southwestern regions of Nairobi. Langata Sub County. It was purposively sampled because it had a good presentation of middle-class population with substance use issues. The study population was comprised of substance use individuals admitted in rehabilitation centers within Langata Sub County. The target population was justified by the concentration of substance use among emerging young adults in urban locations in Nairobi. Using a census method the study utilized the whole population of 144 substance use addicts as a sample size.

Personality functioning was measured using Personality Functioning Scale – Brief Form 2.0 (LPFS-BF 2.0), developed by Weekers, Sellbom, Hutsebaut, Simonsen and Bachin 2019. This instrument is self-reporting and developed to evaluate the severity of personality pathology by examining two critical dimensions: self-functioning which includes identity and self-direction and interpersonal functioning which includes empathy and intimacy. The scale primarily measures self-functioning (items 1 to 6) and the interpersonal functioning (items 7 to 12) as separate but related constructs. Comprising 12 items, each rated on a 4-point scale, ranging from 1 = very false or often false, 2 = sometimes or somewhat false, 3 = sometimes or somewhat true and 4 = very true.

The variable of relapse risk was measured using stimulant relapse risk scale developed by Ogai et al. (2007), in Japan, and is designed for evaluation of drug treatment program. The self-rate scale has a total of 35 items with 6 subscales as listed: a. Anxiety with Intention to use substances (AI) 8 items. b. Emotionality problems (EP) 8 items, c. Compulsivity to use drugs (CD) 4 items, d. Positive expectancy and lack of control (PL) 6 items, e. Negative expectancy for the drug (NE) 4 items and f. Lie scale: Insight of own problem, 5 items. The tool is scored on a 5 – point Likert scale ranging from 1 = strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree and 5 = Strongly agree. The lowest totals a person can score is 35 meaning the respondent totally disagreed with each of the statements and the highest is 175 which means the respondent strongly agreed with all the statements in the questionnaire. The score is evaluated as follows: - 1 – 35 (low score), 36 – 105 (moderate score) and 106 – 175 (High score) indicating high risk of relapse. The collected data was analyzed using descriptive statistics and Pearson correlation analysis.

## RESULTS AND DISCUSSION

The study was set to examine the relationship between personality functioning and relapse risk among substance use addicts in Langata sub-county, Nairobi, Kenya. The section presents the demographic of the participants followed by the objective of the study.

### Demographic Details of Participants

The study utilized descriptive statistics to analyze the demographic variables generated from the demographic profiles of the participants. The analysis was carried out on the five variables: age, level of education, religious affiliation, source of motivation and contribution to the seminary's personal growth. Thus, the social demographic characteristics were summarized and presented accordingly in Table 1.

**Table 1: Social Demographics of Participants**

Variables	Frequency	Percentage
Age		
18-40	108	86.4
41-64	14	11.2
Above 65	3	2.4
Gender		
Male	104	83.2
Female	21	16.8
Marital Status		
Single	82	65.6
Married	30	24
Divorced	13	10.4
Admission		
Voluntary	67	53.6
Involuntary	58	46.4

The results in Table 1, concerning the age distribution, data showed that the frequency of the respondents aged 18 - 40 years was higher at ( $n = 108$ ) 86.4% as opposed to 41 - 64 years at ( $n = 14$ ) 11.2% and above 65 years at ( $n = 3$ ) 2.4%. Regarding classification of the Gender, the male participants were more, 104 (83.2%), followed by female, 21 (16.8%). Concerning marital status, the data showed that 65.6% ( $n = 82$ ) were single and 24 %, ( $n = 30$ ) were married, and 10.4% ( $n = 13$ ) were divorced. About admission, 53.6% ( $n = 67$ ) voluntarily went to a rehabilitation centre as opposed to 46.4 ( $n = 58$ ) who went there involuntarily.

### Relationship between Personality Functioning and Relapse Risk among substance use addicts in Langata Sub County, Nairobi Kenya

Pearson's Correlation Analysis was employed to analyze objective of the study which sought to establish the relationship between personality functioning and relapse risk. The outcome of Pearson's correlation coefficient summarized and presented in a Scatter plot in Figure 1.

**Figure 1: Correlation between Personality Functioning and Relapse Risk**

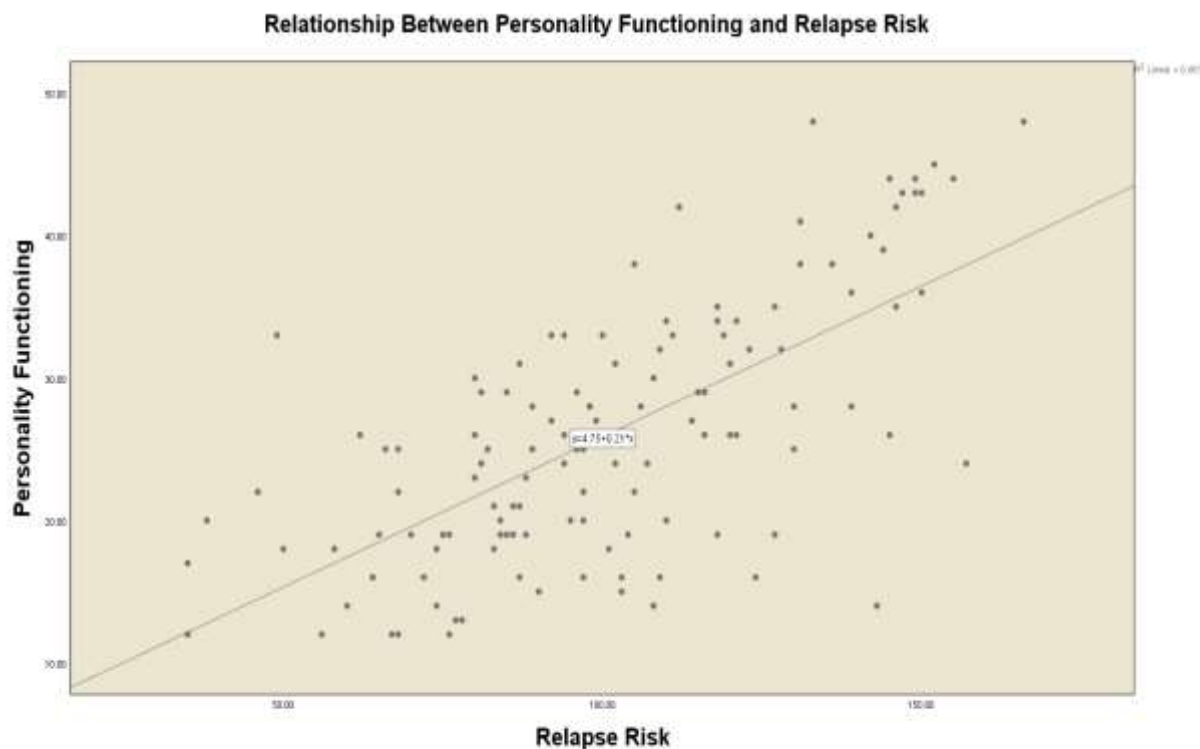


Figure 1 showed that the data were scattered and posed a low challenge in exactly determining of relationship between personality functioning and relapse risk. The scatter plot alone could not establish whether the two variables were positively or negatively correlated, nor establish the significance of that relationship. Pearson's Correlation Coefficient was computed, and statistical data generated by that test were presented in Table 2.

**Table 2: Correlation between Personality Functioning and Relapse Risk**

		Personality Functioning	Relapse Risk
Personality Functioning	Pearson Correlation	1	.683**
	Sig. (2-tailed)		.000
	N	125	125
Relapse Risk	Pearson Correlation	.683**	1
	Sig. (2-tailed)	1.7184E-18	
	N	125	125

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 2 showed that, in terms of strength, there existed strong positive relationship ( $n = 125$ ,  $r = .683$ ,  $p = .000$ ) between personality functioning and stimulant relapse risk of substance use addicts of Langata sub-County, Nairobi, Kenya. These results showed that the intention to embrace personality functioning among respondents correlated strongly with their stimulant relapse risk. The additional information attached to Table 2 explained that the Correlation was significant and was at the 0.01 level (2-tailed). Since  $p = .000$  is smaller than  $p = .01$ , a strong positive correlation ( $r = .683$ , equivalent to  $r = .70$ ) was significant because it was based only on a 0.0 % chance. The results entail that the changes in personality functioning bring about changes as well as stimulant relapse risk.

The findings was consistent with the findings of Nyamoma et al. (2024) who conducted a study in Kakamega County to establish the relationship between personality traits and efficacy of substance use disorder (SUD) among a cohort of 381 students, 108 teachers, 53 Heads of Guidance and Counseling Departments, and 12 sub-county directors. Findings demonstrated a statistically significant association between personality characteristics and the effectiveness of SUD prevention measures, as evidenced by the statistical results [ $F(1, 269) = 80.959$ ,  $p < .05$ ] and [ $F(1, 58)$ ,  $p < .05$ ]. Furthermore, the findings were in line with findings of Githae (2019), who conducted a study in Kiambu to examine the relationship between harmful and non-harmful criticisms as predictors of relapse risk among individuals diagnosed AUD and revealed there was a statistically significant relationship of harmful criticism

( $p=0.000<0.05$ ) and strong predictive value ( $r^2=.285$ ) to risk of relapse. In addition, the findings were in agreement with findings Kinyanjui and Sum (2023) who conducted a study in Eldoret to investigate the levels of personality characteristics on substance use among 400 students, which comprised of 100 participants and found prevalence of substance use among the participants, was 41.5%, and the lifetime prevalence of alcohol use was 36%. The study found that students with higher neuroticism levels and lower levels of agreeableness are highly associated with increased substance use and relapse risk, with a  $p$ -value of  $\leq 0.05$  being statistically significant.

## CONCLUSION

The results showed strong positive relationship between personality functioning and stimulant relapse risk of substance use addicts of Langata sub-County, Nairobi, Kenya. These results showed that the intention to embrace personality functioning among respondents correlated strongly with their stimulant relapse risk. The results entail that the changes in personality functioning bring about changes as well as stimulant relapse risk. Since the study found that majority of the participants had a healthy personality functioning, the study recommends to substance addiction counselors to explore the underlying issues to addiction among substance use addicts brought to rehabilitation centers in Langata Sub-County. This is because it would be expected that persons with personality functioning are likely not to have problem with substance use.

## REFERENCES

- Adejoh, S. O., Temilola, O. M., & Adejuwon, F. F. (2018). Rehabilitation of drug abusers: the roles of perceptions, relationships and family support. *Social work in public health, 33*(5), 289-298.
- Andersson, H. W., Wenaas, M., & Nordfjærn, T. (2019). Relapse after inpatient substance use treatment: A prospective cohort study among users of illicit substances. *Addictive behaviours, 90*, 222-228.
- Chmielowiec, K., & Boroń, A. (2020). Measurement of the dimensions of personality traits in patients addicted to psychoactive substances in the context of relapses. *Current Problems of Psychiatry, 21*(4), 203-209.
- DeLucia, C., Larson, O., Cohen, Z. E., Roopchand, M. B., Meisner, P., & Bergman, B. G. (2024). Predicting Changes in Self-Concept and Substance Use Following Short-Term Residential Substance Use Treatment. Available at SSRN 4737072.
- Dzikiti, L., Dreyer, J., Krüger, C., & Poee, J. M. (2020). Factors associated with the successful completion of a substance rehabilitation programme at a psychiatric training hospital. *South African Journal of Psychiatry, 26*(1), 1-10.
- Githae, E. N. (2019). Perceived harmful criticism in family interactional patterns and relapse risk among recovering inpatients with alcohol use disorder in Kiambu County, Kenya.
- Kalani, K., Nakigudde, J., Birungi, C., Gumikiriza-Onoria, J., Mukiza, N., Arinda, A., ... & Irimaso, H. (2021). Prevalence of relapse of alcohol use disorder and the association with self-efficacy and perceived social support in Butabika Hospital.
- Kibera, T. S. W., & Karega, M. (2023). Relationship between family resilience and relapse risk among discharged substance users attending alcoholic anonymous groups in Nairobi City County, Kenya. *African Journal of Alcohol and Drug Abuse, 10*(1).
- Kinyanjui, D. W., & Sum, A. M. (2023). Personality traits and substance use among college students in Eldoret, Kenya. *PLoS one, 18*(5), e0286160.
- Kopel, P. A., Wambua, P. M., & Kouassi, V. D. (2024). Prevalence of alcohol abuse among Boda Boda Riders in Juba Town South Sudan, *International Journal of Research Publication and Reviews, 5*(6), 5009-5014.
- Kopel, P. A., Wambua, P. M., & Kouassi, V. D. (2024). Strategies to curb alcohol abuse among Boda Boda Riders in Juba Town South Sudan, *Journal of Africana Articles, 2*(7), 1-12.
- Mhaidat, I., Al-Yateem, N., Al-Mamari, S., & Al-Suwaidi, F. (2024). Resilience and relapse risk in Emirate adult patients with substance use disorder: a national cross-sectional study from the United Arab Emirates. *Frontiers in Psychiatry, 15*, 144423.
- Mills, R., Zullig, K. J., Theeke, L. A., Lander, L. R., Hobbs, G. R., Herczyk, J., & Davis, S. M. (2022). Assessing loneliness among adults receiving outpatient treatment with medication for opioid use disorder (MOUD). *International journal of environmental research and public health, 19*(20), 13481.
- National Institute on Drug Abuse. (2018). *Principles of drug addiction treatment: A research-based guide (3rd ed.)*. U.S. Department of Health and Human Services, National Institutes of Health. <https://nida.nih.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition>
- Nichols, L. M., Pedroza, J. A., Fleming, C. M., O'Brien, K. M., & Tanner-Smith, E. E. (2021). Social-ecological predictors of opioid use among adolescents with histories of substance use disorders. *Frontiers in psychology, 12*, 686414.
- Nikmanesh, Z., Baluchi, M. H., & Motlagh, A. A. P. (2017). The role of self-efficacy beliefs and social support on the prediction of addiction relapse. *International Journal of High-Risk Behaviours and Addiction, 6*(1).
- Nkyi, A. K., & Ninnoni, J. P. K. (2020). Depression, purpose in life, loneliness and anxiety among patients with substance use disorders in Ankaful psychiatric hospital in Ghana. *Journal of Psychosocial Rehabilitation and Mental Health, 7*(3), 263-271.

- Ndinda, S. K., & Wambua, P. M. (2023). Role of family functioning in substance addiction among Emerging Adults in Ongata Rongai Sub-County, Kajiado County, Kenya. *International Journal of Research and Innovation in Social Science*, 8(11), 1941-1950.
- Ndinda, S. K., & Wambua, P. M. (2023). Strategies to curb substance addiction among Emerging Adults in Ongata Rongai Sub-County, Kajiado County, Kenya. *International Journal of Research and Innovation in Social Science*, 7(10), 191-201.
- Nyamoma, F. O., Poipoi, M., & Maragia, S. (2024). Influence of Personality Issues on Effectiveness of Substance Abuse Preventive Measures among Secondary Schools in Kakamega County, Kenya. *African Journal of Empirical Research*, 5(3), 107-118.
- Ogai, Y., Haraguchi, A., Kondo, A., Ishibashi, Y., Umeno, M., Kikumoto, H., ... & Ikeda, K. (2007). Development and validation of the Stimulant Relapse Risk Scale for drug abusers in Japan. *Drug and alcohol dependence*, 88(2-3), 174-181.
- Papamalis FE, Kalyva E, Teare MD, Meier PS. (2020). The role of personality functioning in drug misuse treatment engagement. *Addiction*, 115(4),726-739. doi: 10.1111/add. 14872. Epub 2019 Dec 16. PMID: 31779050.
- Ronquillo, M. A. P., Reyes, M. E. S., & Cayubit, R. F. O. (2025). Road to Recovery: Understanding the Personality Typology, Clinical Features, and Risk for Relapse of Filipinos with Substance Use Problems. *Makara Human Behaviour Studies in Asia*, xx(x), 1-17. <https://doi.org/10.7454/hubs.asia.1091024>
- Steingrímsson, S., Carlsen, H. K., Lundström, E., Lundström, S., & Nilsson, T. (2020). Problematic alcohol and drug use is associated with low self-directedness and cooperativeness. *European Addiction Research*, 26(6), 326-334.
- Tracy, K., & Wallace, S. P. (2016). Benefits of peer support groups in the treatment of addiction. *Substance abuse and rehabilitation*, 143-154.
- Wainaina, V. N. (2020). Factors influencing alcohol relapse among patients in alcohol and substance abuse treatment and rehabilitation programme (asatrep) in Kiambu county, Kenya (Doctoral dissertation, University of Nairobi).
- Wang, G. Y. (2022). The relationship between coping and expressed emotion in substance users. *Journal of Clinical Medicine*, 11(19), 5766.
- Wangithi, I. K., & Ndurumo, M. M. (2020). Relationship between family support, Self-Efficacy and relapse occurrence among youth recovering from drug addiction in selected rehabilitation centres in Limuru Sub-County, Kenya. *African Journal of Education, Science and Technology*, 6(1), 134-148.
- Weekers, L. C., Hutsebaut, J., & Kamphuis, J. H. (2019). The Level of Personality Functioning Scale-Brief Form 2.0: Update of a brief instrument for assessing level of personality functioning. *Personality and Mental Health*, 13(1), 3-14.
- World Health Organisation. (2018). Global status report on alcohol and health 2018. Geneva: WHO.
- Xia, Y., Gong, Y., Wang, H., Li, S., & Mao, F. (2022). Family function impacts relapse tendency in substance use disorder: mediated through self-esteem and resilience. *Frontiers in psychiatry*, 13, 815118.
- Yamashita, A., Yoshioka, S. I., & Yajima, Y. (2021). Resilience and related factors as predictors of relapse risk in patients with substance use disorder: a cross-sectional study. *Substance abuse treatment, prevention, and policy*, 16(1), 40.
- Zeng X, Tan C. (2021). The Relationship between the Family Functioning of Individuals with Drug Addiction and Relapse Tendency: A Moderated Mediation Model. *Int J Environ Res Public Health*. 13;18(2):625. doi: 10.3390/ijerph18020625. PMID: 33451020; PMCID: PMC7828550.