P-ISSN: 2709-6254	Journal of Development and Social Sciences	Apr-June 2024, Vol. 5, No.2(S)
O-ISSN:2709-6262	https://doi.org/10.47205/jdss.2024(5-II-S)01	[01-17]

Journal of Development and Social Sciences
www.jdss.org.pk

RESEARCH PAPER

Relapse Tendency among Individuals with Substance Use: Exploring the influence of Family Dynamic and Drug Abstinence Self - Efficacy

[1]Adeeba Saleem* and [2] Dr. Sobia Masood

1. MPhil Scholar, National Institute of Psychology, Centre of Excellence, Quaid-e-Azam University, Islamabad, Islamabad
1. Professor, Department of Psychology, Rawalpindi Women University (RWU), Rawalpindi, Punjab, Pakistan

***Corresponding Author:** adeebasaleem735@gmail.com

ABSTRACT

The study aimed to investigate the predictive role of family functioning and drug abstinence self-efficacy on relapse tendency, the intermediating role of drug abstinence self-efficacy between family functioning and relapse tendency, and the influence of demographic variables (age, drug use history, reasons for use, drug types, marital status, and employment status) on the study variables. The study highlights the relapse tendencies among individuals with substance use, focusing on the role of family dynamics and drug abstinence self-efficacy. It aims to understand how poor family functioning and low drug abstinence self-efficacy contribute to relapse. The research utilizes the Cognitive Social Learning Theory and Relapse Prevention Model to explore these influences. The research was quantitative, correlation study using a cross-sectional research design. Data was obtained from rehabilitation centres. The study found that poor family functioning and low drug abstinence self-efficacy significantly increase relapse tendencies among individuals with substance use disorders. Regression analysis revealed that family dynamics and self-efficacy are strong predictors of relapse, highlighting the need for family-inclusive interventions. These findings suggest that improving family support and enhancing self-efficacy can effectively reduce relapse rates, emphasizing the importance of comprehensive treatment plans. It is recommended to integrate family-based therapy and self-efficacy training into substance use treatment programs to effectively reduce relapse rates.

KEYWORDS Family Dynamic, Relapse Tendency, Self- Efficacy

Introduction

Addiction represents a pervasive global issue (UNODC, 2017) that is often accompanied by a myriad of psychological and emotional challenges (EI-Bassel et al., 2014; Kelly & Daley, 2013; Klevens et al., 2012; Moss & Munt, 2003). It is closely linked to the phenomenon of relapse, which refers to the recurrence of addiction after undergoing treatment. As defined by DSM-5 (First et al., 2022), addiction, or substance use disorders, is associated with alterations in brain circuits controlling reward processes, leading to intense drug cravings and recurrent relapses. These relapses are driven by biological changes, including genetic factors; neural adaptations (Goldstein & Volkow, 2011; Heatherton & Wagner, 2011; MacNicol, 2017), and elevated levels of the stress hormone, adrenocorticotrophic hormone (Sinha et al., 2006; Sinha et al., 2011). Additionally, psychosocial factors, both interpersonal (such as family environment, parental warmth, peer influence, and societal factors) (Masood & Sahar, 2014) and intrapersonal (including personality traits, self-regulation, and coping skills) play an important part in the development and persistence of dependence (Kushner, 2014; Melemis, 2015).

Relapse refers to the resumption of alcohol or other drug use following a period of abstinence and is frequently accompanied by the reappearance of dependence symptoms. The speed at which these signs of dependence re-emerge is considered a significant indicator of the level of drug dependence. Relapse denotes a regression in an individual's efforts to alter substance use patterns, reverting to previous levels of drinking or resuming

substance use following a period of abstinence or setbacks in behavior modification endeavors (Rahman et al., 2016). Research indicates that factors such as young age at initiation, gender, unemployment, single marital status, peer influence, family history of substance use, interpersonal conflict, inadequate family support, and environmental elements like drug availability and accessibility contribute to the propensity for relapse (Kabisa & Biracyaza, 2021).

Substance use disorders (SUDs) are chronic and relapsing conditions characterized by the compulsive use of substances despite negative consequences. Despite efforts to achieve and maintain sobriety, individuals with SUDs often face relapse, which refers to the return to substance use after a period of abstinence. Considerate the factors contributing to relapse is crucial for emerging effective prevention and intervention strategies. Relapse tendency is a significant concern in the rehabilitation of individuals with substance use. Despite successful completion of a rehabilitation program, many individuals face the risk of relapse, which refers to the return to substance use subsequently a period of abstinence. Several factors contribute to relapse tendency in this population. Psychological factors such as cravings, stress, and negative emotions can trigger the desire to use substances again. Environmental factors, including exposure to drug-related cues or social networks that encourage substance use, can also increase the likelihood of relapse.

Several psychological factor associated with relapse is cognitive impairment. Prolonged substance use can lead to cognitive deficits, including impaired decision-making, attention, and memory processes. These cognitive impairments can make individuals more vulnerable to relapse by impairing their ability to resist urges, evaluate consequences, and plan for the future. A study found that cognitive impairment was a remarkable predictor of relapse among individuals with cocaine use disorders (Moe et al., 2023).

Stress and negative life events are additional social factors that contribute to relapse. Individuals with SUDs often face a range of stressful situations, such as financial difficulties, relationship problems, or legal issues. These stressors can trigger the desire to cope through substance use, increasing the risk of relapse. Research has shown that higher levels of stress and exposure to negative life events are related to an increased risk of relapse (Bhattacharyya et al., 2023).

Biological factors, including genetic predisposition and neurobiological mechanisms, also influence the relapse tendency in individuals with SUDs. Twin and family studies have consistently demonstrated a heritable component in SUDs, indicating a genetic vulnerability. Genetic factors can influence various aspects of substance use, including the initial response to substances, reward processing, and stress response, thereby contributing to relapse susceptibility (Volkow et al., 2020).

Family functioning refers to how family members interrelate with one another and adapt to changes and stressors as a unit. It encompasses various components, including communication, emotional expressiveness, problem-solving, roles and responsibilities, and overall family satisfaction (Walsh, 2016). Family functioning refers to the overall dynamics, interactions, and processes within a family system. It encompasses various aspects, such as communication patterns, problem-solving abilities, roles and responsibilities, emotional support, and the level of cohesion and adaptability within the family unit. Healthy family functioning is characterized by effective communication, mutual respect, emotional connectedness, and the ability to handle stress and challenges together (Gouveia et al., 2024).

Poor family functioning, including decreasing levels of family interconnection and high levels of family conflicts, predicted a higher risk of substance use relapse among individuals in recovery from addiction (Kelley et al., 2019). Family conflict and criticism were associated with an enlarged risk of relapse in individuals with alcohol use disorder

(O'Farrell et al., 2003). In individuals undergoing substance use treatment, there was a correlation between poor family functioning, negative emotions, and interpersonal difficulties, all of which were linked to an increased risk of relapse (Gifford et al., 2013).

Healthy family functioning, characterized by open and effective communication, emotional support, and positive relationships, has been linked to lower relapse rates. A supportive family environment that fosters understanding, empathy, and problem-solving skills can serve as a protective factor against relapse (Jones et al., 2018). Strong family bonds and involvement in the recovery process can provide individuals with a sense of belonging, motivation, and accountability, reducing the risk of relapse (Miller & Harris, 2000).

One potential variable that may intermediate the relationship between relapse tendency and family functioning is coping strategies. Research suggests that the way individuals cope with stress and challenges can influence their risk of relapse and how family functioning impacts this risk (Johnson et al.,, 2001). Utilizing effective coping mechanisms, such as problem-solving, regulating emotions, and seeking social support, could mitigate the influence of dysfunctional family dynamics on the tendency for relapse. Conversely, maladaptive coping strategies, such as avoidance or substance use, may exacerbate the link between family dysfunction and relapse (Thompson et al., 2021).

Another intervening factor to consider is self-efficacy, which pertains to an individual's confidence in their capability to resist relapse and sustain recovery. Elevated levels of self-efficacy have been linked to a decreased likelihood of relapse and the capacity to effectively manage complex family dynamics (Ashford et al,, 2019). Self-efficacy may mediate the relationship between family functioning and relapse by influencing an individual's confidence in their ability to cope with family-related stressors and triggers (Zeng & Tan, 2021).

Additionally, social support, equally inside and outside the family, could serve as a mediating variable. Positive social support has been shown to enhance recovery outcomes and reduce the risk of relapse (Smith, 2021). Strong social support networks, including supportive family members, friends, or support groups, can provide individuals with emotional support, encouragement, and practical assistance, which may mitigate the impact of family dysfunction on relapse tendencies (Lawal, 2024).

Research has shown that substance use is most prevalent among young adults, with rates of use decreasing with age according to the SAMSHA 2019 report (Kusiak, E., & Johnson, 2024). The use of certain substances, such as marijuana and tobacco, is also more common among adolescents and young adults (Kelley et al., 2019).

The investigation delves into the median age at which participants first initiated smoking, which was 17 years old, a pivotal period marking the transition from adolescence to adulthood. During this phase of rapid physical and cognitive development, adolescents experience a heightened sense of moving into adulthood. They exhibit a keen interest in exploring unfamiliar facets of the world around them, often driven by curiosity and a desire for novelty. Engaging in exploration and experimentation can contribute to their overall sense of well-being. Young individuals are particularly susceptible to the allure of drugs, often influenced by the allure of forbidden experiences. This curiosity, coupled with a relatively weak ability to resist external temptations, increases their susceptibility to substance use. Research indicates that negative interactions with peers play a significant role in predicting individual drug consumption behaviours (Zeng & Tan, 2021).

In Pakistan, substance use is also a problem, with drug use reported as a major public health concern. According to a national survey conducted in 2013, the prevalence of drug use in Pakistan was reported to be 6.7% among the general population aged 15-64 years. Furthermore, it was noted that there has been a shift in drug use patterns from

traditional substances such as opium to synthetic drugs such as amphetamine-type stimulants (ATS). Based on a UNODC report, approximately 6.45 million individuals aged 15 to 64 in Pakistan engaged in the non-medical use of plant-based, synthetic, or prescription drugs. Annually, Pakistan witnesses the addition of nearly 50,000 drug addicts, marking a substantial rise from 50,000 in 1980 to 8.1 million in 2011. The issue of drug addiction extends beyond Pakistan, affecting neighbouring countries such as Bangladesh, India, Afghanistan, and Nepal.

Literature Review

Family functioning had a direct impact on self-efficacy and an indirect effect on relapse tendency through self-efficacy among individuals in substance abuse treatment. The study suggests that positive family functioning can improve self-efficacy, which can, in turn, reduce the likelihood of relapse (Lee et al., 2014). Family-based intervention for adolescents with substance use disorders improved their self-efficacy and reduced the likelihood of relapse (Kaminer, 2008).

Family functioning significantly influences an individual's self-efficacy toward substance use. Positive family functioning and support are associated with higher levels of self-efficacy, while negative family functioning and dysfunction are linked to lower self-efficacy. The studies conducted by Lee et al., (2014), provide evidence for the character of family functioning in influential self-efficacy toward substance use. One study investigated the relationship between family functioning, and self-efficacy toward substance use among adolescents. The findings revealed that positive family functioning, characterized by supportive and cohesive relationships, was positively correlated with higher levels of self-efficacy in resisting substance use. Conversely, negative family functioning, marked by conflict, poor communication, and substance use within the family, was associated with lower self-efficacy toward substance use (Paredes., 2024).

Lee et al., (2014) investigated the mediating role of family support in the association between family functioning and drug abstinence self-efficacy among adolescents facing substance use issues. Their findings indicated that family support served as a partial mediator in the link between positive family functioning and increased self-efficacy regarding substance use. This implies that nurturing family environments aid in the cultivation of self-efficacy by promoting feelings of belonging, trust, and encouragement.

Self-efficacy refers to individuals' beliefs regarding their capacity to achieve specific levels of performance and exert influence over events impacting their lives. Higher levels of self-efficacy are associated with a reduced likelihood of relapse among individuals with drug addiction (Zeng & Tan, 2021). Abstinence self-efficacy is the belief an individual has that he or she will be able to abstain from participating in an undesired action; especially in situations where one has a high tendency to partake in a given activity (Lee & Oei, 1993; Young, Oei, & Crook, 1991). Self-efficacy is involved in abstaining from numerous habitual behaviours, including smoking, using illicit substances, and excessive drinking. Researchers showed that among individuals who attempt to quit smoking, those individuals with higher self-efficacy scores have better outcomes.

Drug Abstinence Self-efficacy plays a pivotal role in the retrieval process of individuals with addiction. Higher stages of self-efficacy are related to a decreased likelihood of relapse, while lower self-efficacy increases the vulnerability to relapse. The findings from research studies conducted by Marlatt et al, (1988) Donovan et al., (2008) provide evidence for the significant impact of self-efficacy on relapse tendency in substance abuse treatment.

Self-efficacy serves as a cognitive mechanism that influences individuals' thoughts, emotions, and behaviours. According to Bandura's social cognitive theory, individuals with

high levels of self-efficacy are more likely to persevere, exert effort, and maintain motivation in the face of challenges. Conversely, individuals with low self-efficacy may be more prone to feelings of helplessness, giving up easily, and experiencing self-doubt (Benight & Bandura, 2004). People with high self-efficacy have a greater tendency to discontinue substance abuse and also are less insistent on drug abuse in the face of the risk of substance abuse. Moreover, self-efficacy can only predict drug abuse for three months after treatment (Ader et al., 2024).

In a study conducted by Marlatt et al., (1988), the association between self-efficacy and relapse among individuals undergoing alcohol treatment was examined. The findings indicated that individuals with greater self-efficacy demonstrated a reduced likelihood of relapse, while those with lower self-efficacy were at a higher risk of relapse. This research underscores the significance of self-efficacy in sustaining abstinence and preventing relapse. A separate investigation conducted by Donovan et al., (2008) examined the influence of self-efficacy on relapse prediction among individuals diagnosed with cocaine dependence. The results indicated that individuals with stronger self-efficacy beliefs exhibited a decreased likelihood of relapse, even when experiencing intense cravings. This study underscores the protective role of self-efficacy in preventing relapse, particularly during difficult circumstances.

Theoretical Framework

Cognitive Social Learning Theory

Bandura (1977; 1986) developed the cognitive social learning theory, highlighting the importance of an individual's thoughts and social environment in shaping coping behaviours. This theory suggests that coping responses to life events are learned behaviors influenced by personal beliefs and societal influences. In the context of substance use disorders, applying this theory suggests that an individual's belief in their ability to cope, known as perceived self-efficacy, plays a crucial role. For instance, if someone has low perceived self-efficacy after using alcohol, it might increase the likelihood of relapse. This concept has been discussed by researchers such as Rollnick & Heather (1982) and Wilson (1978).

Relapse Prevention (RP) Model

The Relapse Prevention (RP) model based on the cognitive-behavioural model, as proposed by Marlatt and Gordon, posits that relapse can be influenced by both immediate determinants (such as high-risk situations, coping skills, outcome expectancies, and the abstinence violation effect) and covert antecedents (like lifestyle factors, urges, and cravings). The Relapse Prevention (RP) model further integrates various specific and comprehensive intervention strategies, enabling therapists and clients to address each stage of the relapse process effectively (Wardle et al., 2024).

Redel et al., (2024) found that the Relapse Prevention (RP) approach is effective in both the initiation and maintenance of behaviour change in individuals with substance use disorders. The study highlighted that RP strategies, categorized into specific intervention techniques and global self-control approaches, are crucial in managing high-risk situations and promoting positive lifestyle adjustments. Specific interventions, such as enhancing self-efficacy through achievable goals and correcting misconceptions about substance use, were shown to significantly reduce relapse risk. The importance of a thorough assessment of clients' substance use patterns, high-risk situations, coping abilities, self-efficacy, outcome expectations, and readiness for change was also emphasized, along with addressing complicating factors like comorbid disorders. This comprehensive assessment enables clients to identify high-risk situations and apply cognitive and behavioural strategies to avoid or mitigate relapse triggers effectively.

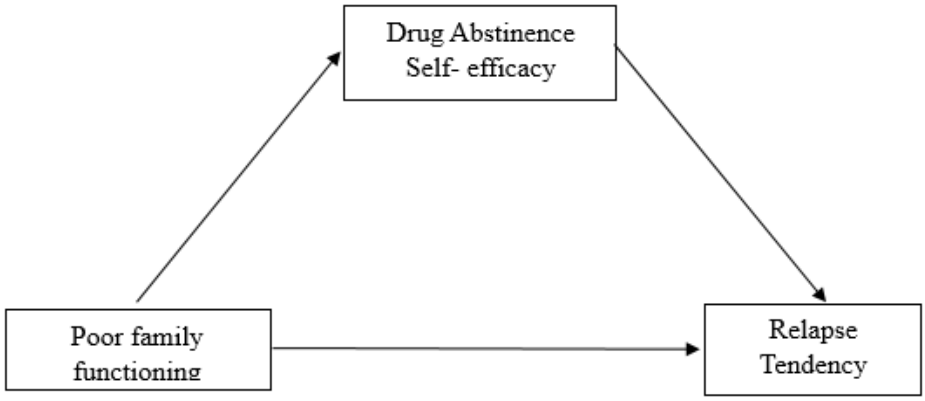

Figure 1 Conceptual Model

The conceptual model explains that family functioning influences an individual's relapse tendency. Positive family functioning, characterised by healthy communication, support, and effective problem-solving, may reduce the risk of relapse by providing a supportive environment and addressing underlying issues that contribute to substance use (Sutlu & Kutlu, 2024). Additionally, the model proposes that drug abstinence self-efficacy plays a key role in shaping an individual's relapse tendency. Higher levels of drug abstinence self-efficacy, where individuals have self-assurance in their ability to resist drug use and manage triggers, are associated with a lower likelihood of relapse (Binumon et al., 2024).

The conceptual model suggests that family functioning, and drug abstinence self-efficacy are interconnected factors that influence an individual's likelihood of relapse. Understanding these relationships can help in developing interventions and strategies to enhance family support, strengthen self-efficacy, and address outcome expectancies, ultimately reducing the hazard of relapse in individuals with substance use issues (Jia et al., 2024).

Hypotheses

1. Poor family functioning will positively predict relapse tendency among individuals with substance use.

2. Poor family functioning will negatively predict drug abstinence self-efficacy.

3. Drug abstinence self-efficacy will negatively predict relapse tendency among individuals with substance use.

4. Drug abstinence self-efficacy will mediate the relationship between family functioning and relapse tendency.

Material and Methods

The research was quantitative, correlation study using a cross-sectional research design. Data was obtained from rehabilitation centres. These two studies made up the current research.

Study (I)

Study I consist of the following phase; Phase 1. Translation of study measure, Phase 2 Validation of study measure and Phase Three tryout of the measures with study variables.

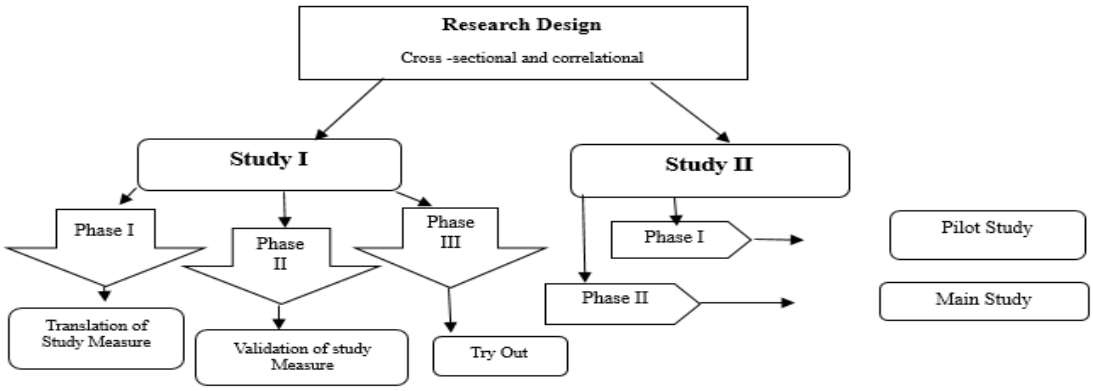

Figure 1 Research Design

Phase I: Translation of study measure: The author was contacted via email to request his consent for using the measure in the current study. The scale translated was the Drug Abstinence Self-efficacy scale. Study I focused on translation and validation. It encompassed three phases: Phase I involved the translation of measures into Urdu, Phase II concentrated on cross-language validation, and Phase III focused on establishing construct validity. Study II comprised two phases: Phase I involved a pilot study examining the psychometric properties of scale and its association with study variables. The final phase, Phase II, constituted the main study intended to examination the hypotheses formulated in this research.

The study aims to investigate the predictive role of family functioning and drug abstinence self-efficacy in determining relapse tendency among individuals with substance use. Additionally, it seeks to examine the intermediating role of drug abstinence self-efficacy in the relationship between family functioning and relapse tendency. Furthermore, the study aims to explore the moderating role of outcome expectancies in the relationship between predictors (family functioning and drug abstinence self-efficacy) and relapse tendency among individuals with substance use. Moreover, the research will investigate demographic variables such as age, history of drug use, reasons behind drug use, types of drugs used, marital status, and employment status concerning the study variables.

The study hypothesizes that poor family functioning will positively predict relapse tendency among individuals with substance use, while also negatively predicting drug abstinence self-efficacy. It is further hypothesized that drug abstinence self-efficacy will mediate relapse tendency among these individuals, acting as a mediator in the relationship between family functioning and relapse tendency. Additionally, the study proposes that outcome expectancies will moderate the relationship between poor family functioning and relapse tendency, potentially influencing the predictive role of family functioning on relapse tendency. The Drug Abstinence Self-Efficacy Scale (DASE) comprises 20-item inventories evaluating drug abstinence self-efficacy from alcohol and drug use (DiClemente, Carbonari, Montogomery & Hughes, 1994). The Self-Report Family Inventory version II (SFI-II), originally comprising 44 items underwent modification by Beavers & Hampson (1990), reducing it to 36 items.

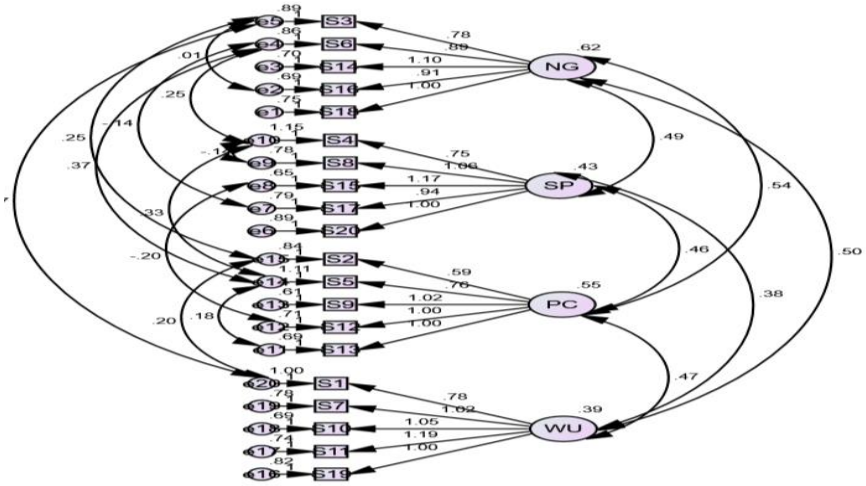

Figure 2: Confirmatory Factor Analysis for the Drug Abstinence Self-Efficacy Scale (N=300)

Table 1
Drug Abstinence Self-Efficacy Scale (N=300)

Model	χ2	df	χ2(df)	NFI	GFI	TLI	CFI	RMSE
Model 1	480.58	164	2.93	.79	.84	.83	.85	.08
Model 2	311.269	153	2.03	.87	.90	.91	.92	.05

Phase II of the study aimed to test the hypotheses formulated in the research. Data was analyzed using the Statistical Package for Social Sciences (SPSS-26). The internal consistency of the instruments was assessed by computing reliability coefficients. Bivariate correlation analysis was performed to examine the relationships between variables, while multiple regression analysis was employed to assess the predictability of the outcome variable. For mediation and moderation analysis, the Hayes Process Macro in SPSS was utilised. Additionally, demographic differences related to marital status, family system, and employment status were analyzed using t-tests.

The sample for the study comprised 300 individuals with substance use disorders, with ages ranging from 18 to 54 years (M=30.30, SD=7.94). Participants were selected from drug rehabilitation centres in Islamabad and Rawalpindi using purposive sampling techniques. Both nuclear and joint family system individuals were included in the study.

In terms of inclusion criteria, participants had to be officially diagnosed with substance use disorder by rehabilitation centres. They had to be adults, emphasising the study's focus on adult substance users to delve into their specific issues and needs. Exclusion criteria involved excluding individuals diagnosed with psychological disorders or other physical illnesses, aiming to isolate the impact of substance use disorder and assess its relationship with the study variables without potential confounding factors from other conditions.

Results and Discussion

The main study was based on hypothesis testing. Relationship among variables and mediation was tested on a sample of 300 individuals with substance use. Initially, a total of 350 questionnaires were distributed out of which 300 were filled properly the other 30 booklets were discarded due to unanswered questionnaires and 20 were discarded as they did not fulfil the criteria. So, a total of 300 questionnaires have been considered. The collected data was put through a variety of analyses which are discussed next.

The relationship among study variables was analyzed by computing bivariate correlations. The results show that poor family functioning is significantly and positively related to relapse tendency, supporting Hypothesis 1: "Poor family functioning will

positively predict relapse tendency among individuals with substance use." This finding aligns with previous research, which indicated that poor family functioning, such as low family cohesion and high family conflict, increases the risk of relapse in individuals recovering from addiction (Kelley et al., 2019). Additionally, family conflict and criticism have been linked to a higher risk of relapse in those with alcohol use disorder (O'Farrell et al., 2003). Poor family functioning has also been associated with negative emotions and interpersonal problems (Kaviyani et al., 2023).

The results also indicate that poor family functioning negatively correlates with drug abstinence self-efficacy, supporting Hypothesis 2: "Poor family functioning will negatively predict drug abstinence self-efficacy among individuals with substance use." This is further corroborated by literature showing that family functioning significantly affects an individual's self-efficacy regarding substance use. Studies by Lee et al., (2014), and Spoth et al., (2014) highlight the influence of family functioning on self-efficacy in substance use contexts.

The findings indicate a negative correlation between relapse tendency and drug abstinence self-efficacy among individuals with substance use disorders, supporting Hypothesis 3: higher self-efficacy predicts lower relapse tendency. This is consistent with the literature, such as the studies by Marlatt and Gordon (1988), who found that individuals with higher self-efficacy were less likely to relapse during alcohol treatment (Donovan et al., 2008).

To identify the primary predictors of relapse tendency, a multiple linear regression analysis was conducted, including poor family functioning, and drug abstinence self-efficacy, while controlling for demographic variables. The analysis revealed that poor family functioning was the most significant predictor of relapse tendency, aligning with research emphasising socio-environmental factors as key relapse predictors (Clarke, 2012). Other individual factors like self-esteem, depression, and hopelessness, along with family issues such as parental unemployment and ineffective communication, and social factors like peer influence and unemployment, were also implicated in relapse.

Results show that drug abstinence self-efficacy mediates the relationship between poor family functioning and relapse tendency. This finding supports the theoretical frameworks suggesting that self-efficacy influences an individual's coping ability with family-related stressors and triggers (Zeng & Tan, 2021).

ANOVA and independent sample t-tests were used to explore mean differences across demographics, including family systems and employment status. Individuals in joint family systems showed higher relapse rates compared to those in nuclear families, as they face more familial pressure and societal expectations (Masood & Sahar, 2014).

Table 2
Demographic Variables of the Study *(N= 300)*

Variables	Categories	N	%	M	SD
Age	(18-54) years	300		30.30	7.94
Gender	Only Men	300			
Family monthly income	10000-4000000	300		203060.00	363211.3
Education	Below matriculation	107	35		
	Matric and above	129	43		
	Master and above	64	21		
Parental living status	Both alive	207	69		
	Both not alive	30	10		
	One alive	63	21		
Family system	Nuclear	106	36		
	Joint	194	64		
Marital status	Married	116	38		
	Unmarried	184	62		

Employment status	Employed	126	42		
	Unemployed	174	58		
Reason for usage	Family stressor and problems	19	6		
	Friends and company	151	50		
	Depression, Stress or anxiety	62	21		
	Have fun or others	68	23		
History of drug use	(1-30) years			7.07	5.93
Type of Drug	Poly drug	139	46		
	Crystal methamphetamine	81	27		
	Cannabis	67	22		
	Heroin	13	5		
Drug use by family	Yes	137	45		
	No	163	55		
Drug use by friends	Yes	245	82		
	No	55	18		

Table 3
Descriptive Statistics and Alpha Reliability Coefficient of the Study Variables in Main Study

					Range			
Variables	*M*	*SD*	*K*	A	Potential	Actual	Skew.	Kurt.
RT	120.67	29.07	27	.91	27-189	53-189	-.14	-.54
PFF	114.43	19.59	36	.86	36-180	60-165	-.53	.01
DASE	48.87	13.90	20	.91	20-98	20-100	.56	1.13
NE	12.51	4.22	5	.78	5-25	5-25	.47	.37
SP	9.94	3.07	5	.69	5-25	5-25	.44	.48
POC	12.10	3.90	5	.74	5-25	5-25	.52	.74
WU	11.72	3.77	5	.71	5-25	5-24	.36	.13

Note. M = Mean, *SD* = Standard Deviation, Skew = skewness, Kurt = kurtosis, RT = Relapse Tendency, FF = Family Functioning, NE= Negative Effect, SSP = Social Situation and Positive Emotion, POC = Physical and Other Concern, WU=Withdraw and Urge

Table 4
Pearson's Correlation of the Study Variables *(N = 300)*

SR.no	Variables	1	2	3	4	5	6	7	8
1	RT	-	.64**	.26**	-.27**	-.18**	-.20**	-.26**	.17**
2	PFF		-	-.27**	-.29**	-.20**	-.20**	-.27**	.14*
3	DASE			-	.91**	.86**	.88**	.88**	-.11*
4	NE				-	.72**	.74**	.75**	-.13*
5	SSP					-	.68**	.66**	-0.02
6	POC						-	.72**	-0.03
7	WU							-	-.20**

Note. RT = Relapse Tendency, PFF = Poor Family Functioning, DASE = Drug abstinence self-efficacy, NE= Negative Effect, SSP = Social Situation and Positive Emotion, POC = Physical and Other Concern, WU=Withdraw and Urge.**P< .01. *< .05

Table 5
Multiple Linear Regression Analysis *(N = 300)*

Variables	Model I			*95%CI*	
	B	*B*	*SE*	*LL*	*UL*
Constant	13.10**		10.65	-7.85	34.06
PFF	.77**	.57	.06	.64	.89
DASE	-.15	-.07	.09	-.34	.02
Reason for drug use	4.39**	.13	1.41	1.60	7.18

Prior treatment	5.44**	.10	2.38	.74	10.14
R^2	.67**				
F	73.14**				
ΔR^2	.45**				
ΔF	48.64**				

Note. CI = Confidence interval; *LL* = Lower Limit; *UP* = Upper Limit; PFF = Poor Family Functioning; DASE = Drug abstinence self- efficacy.**P< .01. *< .05

Table 6
Mediating Effect of Drug Abstinence Self Efficacy between Relapse Tendency and Poor Family Functioning Individual with Substance Use *(N = 300)*

Variables	*B*	SE	t	p	*95%CI*	
					LL	*UL*
Direct effect						
PFM –DASE	-.07***	.02***	-3.53	.000	-.11	-.03
DASE-RT	-.41**	.06**	-2.61	.009	-.72	-.12
PFM-RT	.83***	.06***	13.45	.000	.71	.95
Indirect effect						
PFM-DASE-RT	.03**				.00	.06
Total effect						
	.86***	.06***	14.49	.000	.74	.98

Note. PFM = Poor family functioning; DASE= Drug abstinence self-efficacy; RT = Relapse tendency. **P< .01. *< .05

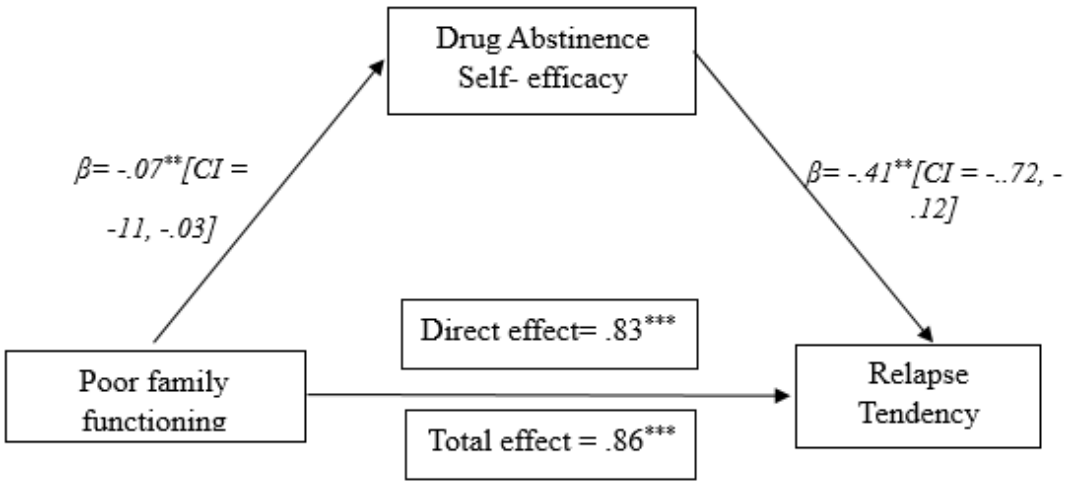

Figure 2: Mediating role of Drug Abstinence Self – Efficacy between Poor Family Functioning and Relapse Tendencies (N=300)

Table 7
Independent Sample t-test Based on Family System of Individuals with Substance use on Study Variable *(N = 300)*

	Nuclear (*n*=106)		Joint (*n*=193)				*Cohen's D*
Variables	*M*	*SD*	*M*	*SD*	*t(300)*	*P*	
RT	119.18	25.43	121.48	30.92	-.69	.02	0.08
PFF	118.93	19.83	117.43	22.46	.57	.10	0.07
DASE	49.56	12.12	48.50	14.80	.63	.03	0.07
NE	12.63	3.50	12.44	4.57	.38	.00	0.04
SSP	12.41	3.34	12.60	3.98	-.44	.02	0.05
POC	12.16	3.62	12.07	4.04	.18	.30	0.02
WU	12.35	3.35	11.37	3.95	2.28	.02	0.26

Note. RT = Relapse Tendency, FF = Family Functioning, DASE = Drug abstinence self- efficacy, NE= Negative Effect, SSP = Social Situation and Positive Emotion, POC = Physical and Other Concern, WU=Withdraw and Urge. **P< .01. *< .05.

Table 8
Independent Sample t-test Based on Employment Status of Individuals with Substance use on Study Variable *(N = 300)*

	Employed (n=116)		**Unemployed (n=184)**				**Cohen's d**
Variables	**M**	**SD**	**M**	**SD**	**t(300)**	**p**	
RT	122.11	29.04	119.62	29.13	0.73	0.95	0.08
PFF	118.72	22.91	117.41	20.56	0.50	0.24	0.06
DASE	48.32	13.75	49.27	14.04	-.58	0.56	0.00
NE	12.53	4.26	12.49	4.20	0.09	0.41	0.00
SSP	12.44	3.68	12.60	3.83	-0.37	0.91	0.04
POC	11.74	3.84	12.36	3.92	-1.35	0.73	0.15
WU	11.59	3.81	11.81	3.75	-0.48	0.32	0.05

*Note.*RT = Relapse Tendency, FF = Family Functioning, DASE = Drug abstinence self-efficacy, NE= Negative Effect, SSP = Social Situation and Positive Emotion, POC = Physical and Other Concern, WU=Withdraw and Urge. **P< .01. *< .05.

Table 9
Independent Sample t-test Based on Drug Use by Family Members of Individuals with Substance use on Study Variable *(N = 300)*

	Yes (*n* =137)		No (*n*=163)				*Cohen's D*
Variables	*M*	*SD*	*M*	*SD*	t*(300)*	P	
RT	118.71	28.57	122.32	29.47	-1.07	.28	-
PFF	117.40	19.91	118.43	22.89	-.41	.67	-
DASE	50.79	13.41	47.26	14.14	2.21	.02	.25
NE	13.22	4.17	11.91	4.17	2.71	.00	.31
SSP	13.01	3.37	12.14	4.04	2.00	.04	.23
POC	12.29	3.84	11.93	3.94	.79	.42	-
WU	12.25	3.63	11.26	3.84	2.27	.02	.26

Note. RT = Relapse Tendency, FF = Family Functioning, DASE = Drug abstinence self-efficacy, NE= Negative effect, SSP = Social Situation and Positive Emotion, POC = Physical and Other Concern, Withdrawal and Urge.

Table 10
The ANOVA Estimate was Made to Determine the difference in types of drugs existing among the study variables *(N = 300)*

Variables	Polydrug (139)		Crystal methamphetamine (n = 80)		Chars *(n*=67)		Heroin (*n*=31)				Post Hoc	D	95% CL		
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*P*	*i-j*		*LL*	*UL*	*γ2*
RT	120.05	27.11	121.53	34.00	122.79	26.93	111.00	28.21	.64	.59					.07
PFF	117.93	20.86	116.92	21.98	122.11	20.40	103.30	26.79	2.95	.03	1>4 2>4 3>4	14.62 13.61 18.81	2.44 1.06 6.08	26.81 26.16 31.54	.02
DASE	49.61	3.44	48.93	17.48	47.43	9.97	48.07	11.61	.38	.76					.04
NE	12.97	4.11	12.41	5.03	11.68	3.32	12.46	3.57	1.42	.23					.01
SSP	12.64	3.72	12.33	4.36	12.56	3.00	12.53	4.17	.11	.94					.01
POC	12.12	3.70	12.27	4.79	11.92	3.23	11.76	3.19	.12	.94					.01
WU	11.87	3.75	11.91	4.41	11.25	3.05	11.30	3.25	.53	.65					.05

Note. RT = Relapse Tendency, FF = Family Functioning, DASE = Drug abstinence self-efficacy, NE= Negative Effect, SSP = Social Situation and Positive Emotion, POC = Physical and Other Concern, WU=Withdraw and Urge.**P< .01. *< .05.

Conclusion

The present research can be thus concluded as providing the support for the relapse tendency and family functioning, mediation role of drug abstinence self-efficacy among individuals with substance use, which for the current study is interpreted in terms of Relapse tendency positively correlate with poor family functioning. The correlation, regression, mediation analyses and model testing provide evidence in support of our proposed model. Poor family functioning plays a significant positive role in contributing to the relapse of individuals with substance use. A significant negative correlation is found between drug abstinence self-efficacy and relapse tendency, emphasizing the importance of self-efficacy in maintaining abstinence. Drug abstinence self-efficacy emerges as an important mediator between poor family functioning and relapse tendency. The study also provides information on the various reasons for drug use as reported by the participants. This reason is also discussed concerning support from past research.

Recommendations

The methodology employed in the current study possesses certain limitations that could potentially impact the outcomes. Firstly, the reliance on self-report scales introduces a risk of self-presentational bias. While gathering subjective data on family functioning and drug abstinence self-efficacy directly from participants is appropriate, using only one informant may lead to skewed results

Moreover, in this study, participants provided reports on their family functioning from their perspectives, but there was a lack of inquiry into family members' perspectives on the same issues. It is recommended that future researchers adopt a multi-informant approach, involving questioning not only the participants but also their family members and significant others. The data collection process was hindered by the complexity of Likert-type scales, which were challenging for our study sample to comprehend. This led to prolonged test administration times and efforts to minimize researcher bias.

Implication of the Study

The results of this study carry significant implications that contribute to our theoretical understanding of relapse tendencies from a psychological standpoint. The study underlines the pivotal role of family functioning in shaping the development of responsibility among adults, shedding light on the intricate interplay between familial dynamics and relapse propensity. Understanding the influence of family functioning on predicting relapse tendencies suggests the importance of integrating family therapy approaches into treatment programs. By involving family members in therapy sessions, clinicians can address dysfunctional family dynamics, potentially alleviating stressors that contribute to relapse occurrences.

References

Ader, M. A. P., Cruz, J. M. F. D., Ramos, J. M. M., Manaois, J. O., Filipinas, T. I., Tomawis, M. C., & Barros, M. L. R. (2024). Examining the Relationship between Authoritative Parenting Style and Drug Dependence among PWUDs: The Mediating Role of Self-Efficacy. *International Journal of Research and Scientific Innovation*, *11*(1), 44-53.

Ashford, R. D., Meeks, M., Curtis, B., & Brown, A. M. (2019). Utilization of peer-based substance use disorder and recovery interventions in rural emergency departments: Patient characteristics and exploratory analysis. *Journal of rural mental health, 43*(1), 17.

Bandura, A. (1986). Social foundations of thought and action. *Englewood Cliffs, NJ*, *1986*(23-28), 2.

Bandura, A., & Walters, R. H. (1977). *Social learning theory* (Vol. 1). Prentice Hall: Englewood cliffs.

Beavers, W. R., & Hampson, R. B. (1990). *Successful families: Assessment and intervention*. WW Norton & Co.

Benight, C. C., & Bandura, A. (2004). Social cognitive theory of posttraumatic recovery: The role of perceived self-efficacy. *Behaviour research and therapy*, *42*(10), 1129-1148.

Bhattacharyya, S., Schoeler, T., Di Forti, M., Murray, R., Cullen, A. E., & Colizzi, M. (2023). Stressful life events and relapse of psychosis: analysis of causal association in a 2-year prospective observational cohort of individuals with first-episode psychosis in the UK. *The Lancet Psychiatry*, *10*(6), 414-425.

Binumon, K. V., Ezhumalai, S., Janardhana, N., & Chand, P. K. (2024). Development and Validation of Brief Family Intervention for Young Adults with Substance Use Disorder: A Qualitative Study. *Journal of psychiatry spectrum*, *3*(1), 28-35.

Clarke, P. B. (2012). *The relationship between wellness, emotion regulation, and relapse in adult outpatient substance abuse clients*. The University of North Carolina at Greensboro.

DiClemente, C. C., Carbonari, J. P., Montgomery, R. P., & Hughes, S. O. (1994). The Alcohol Abstinence Self-Efficacy scale. *Journal of studies on alcohol*, *55*(2), 141-148.

Donovan, D. M., Anton, R. F., Miller, W. R., Longabaugh, R., Hosking, J. D., Youngblood, M., & COMBINE Study Research Group. (2008). Combined pharmacotherapies and behavioral interventions for alcohol dependence (The COMBINE Study): examination of posttreatment drinking outcomes. *Journal of Studies on Alcohol and Drugs*, *69*(1), 5-13.

El-Bassel, N., Shaw, S. A., Dasgupta, A., & Strathdee, S. A. (2014). Drug use as a driver of HIV risks: re-emerging and emerging issues. *Current Opinion in HIV and AIDS*, *9*(2), 150-155.

First, M. B., Yousif, L. H., Clarke, D. E., Wang, P. S., Gogtay, N., & Appelbaum, P. S. (2022). DSM-5-TR: Overview of what's new and what's changed. *World Psychiatry*, *21*(2), 218.

Fischer, B., Haydon, E., Rehm, J., Krajden, M., & Reimer, J. (2004). Injection drug use and the hepatitis C virus: Considerations for a targeted treatment approach-The case study of Canada. *Journal of Urban Health*, *81*, 428-447.

Gifford, C. A., Ziller, M. J., Gu, H., Trapnell, C., Donaghey, J., Tsankov, A., ... & Meissner, A. (2013). Transcriptional and epigenetic dynamics during specification of human embryonic stem cells. *Cell*, *153*(5), 1149-1163.

Goldstein, R. Z., & Volkow, N. D. (2011). Dysfunction of the prefrontal cortex in addiction: neuroimaging findings and clinical implications. *Nature reviews neuroscience*, *12*(11), 652-669.

Gouveia, F., Gouveia-Pereira, M., & Portugal, A. (2024). COVID-19, Family and Love Relationships: Perception of Stress, Relational Quality, Family Functioning and Online Infidelity Behaviors. *Journal of Couple & Relationship Therapy*, 1-16.

Jia, G., Wen, J., Fan, D. X., & Liu, X. (2024). Role reversal in adult child-aging parent family travel. *Annals of Tourism Research*, *106*, 103751.

Johnston, L., O'Malley, P. M., & Bachman, J. G. (2001). *Monitoring the future: National survey results on drug use, 1975-2000* (Vol. 1). National Institute on Drug Abuse, US Department of Health and Human Services, National Institutes of Health.

Jones, R. W., & Kierzkowski, H. (2018). The role of services in production and international trade: A theoretical framework. *World Scientific Book Chapters*, 233-253.

Kabisa, E., Biracyaza, E., Habagusenga, J. D. A., & Umubyeyi, A. (2021). Determinants and prevalence of relapse among patients with substance use disorders: case of Icyizere Psychotherapeutic Centre. *Substance abuse treatment, prevention, and policy*, *16*, 1-12.

Kaminer, D., Grimsrud, A., Myer, L., Stein, D. J., & Williams, D. R. (2008). Risk for post-traumatic stress disorder associated with different forms of interpersonal violence in South Africa. *Social science & medicine*, *67*(10), 1589-1595.

Kaviyani, F., Khorrami, M., Heydari, H., & Namvar, M. (2023). Understanding the laps and relapse process: in-depth interviews with individual who use methamphetamine. *Substance Abuse Treatment, Prevention, and Policy*, *18*(1), 41.

Kelley, N., Jeltema, D., Duan, Y., & He, Y. (2019). The NLRP3 inflammasome: an overview of mechanisms of activation and regulation. *International journal of molecular sciences*, *20*(13), 3328.

Kelly, T. M., & Daley, D. C. (2013). Integrated treatment of substance use and psychiatric disorders. *Social work in public health*, *28*(3-4), 388-406.

Klevens, R. M., Hu, D. J., Jiles, R., & Holmberg, S. D. (2012). Evolving epidemiology of hepatitis C virus in the United States. *Clinical infectious diseases*, *55*(suppl_1), S3-S9.

Kusiak, E., & Johnson, K. (2024). Shifts in motivation to seek substance use disorder treatment in adolescents, emerging adults, and older adults. *Journal of Substance Use*, *29*(2), 295-299.

Lawal, O. L. (2024). *CAREGIVER-CHILD RELATIONSHIP AND TEEN TOBACCO USE FROM THE SAMPLE OF THE FUTURE OF FAMILY AND CHILD WELLBEING STUDY: A MEDIATED ANALYSIS* (Master's thesis, Kent State University).

Lee, N. K., & Oei, T. P. (1993). The importance of alcohol expectancies and drinking refusal self-efficacy in the quantity and frequency of alcohol consumption. *Journal of Substance Abuse*, *5*(4), 379-390.

Lee, Y. K., Chang, C. T., Lin, Y., & Cheng, Z. H. (2014). The dark side of smartphone usage: Psychological traits, compulsive behavior and technostress. *Computers in human behavior*, *31*, 373-383.

Marlatt, G. A., Curry, S., & Gordon, J. R. (1988). A longitudinal analysis of unaided smoking cessation. *Journal of consulting and clinical psychology*, *56*(5), 715.

Masood, S., & Us Sahar, N. (2014). An exploratory research on the role of family in youth's drug addiction. *Health Psychology and Behavioral Medicine: An Open Access Journal*, *2*(1), 820-832.

Miller, W. R., & Harris, R. J. (2000). A simple scale of Gorski's warning signs for relapse. *Journal of Studies on Alcohol*, *61*(5), 759-765.

Moe, F. D. (2023). Some psychological and social factors in relapse after long-term abstinence in substance use disorder. *Journal of Substance Use and Recovery, 15(4),* 123-135.

O'Farrell, A. M., Abrams, T. J., Yuen, H. A., Ngai, T. J., Louie, S. G., Yee, K. W., ... & Cherrington, J. M. (2003). SU11248 is a novel FLT3 tyrosine kinase inhibitor with potent activity in vitro and in vivo. *Blood, The Journal of the American Society of Hematology*, *101*(9), 3597-3605.

Paredes, A. (2024). Relations among acculturative stress, family pressure, resilience, and substance misuse in international college students. *Journal of Substance Use and Recovery, 12(1),* 45-60.

Rahman, M. F., Jashimuddin, M., Islam, K., & Nath, T. (2016). Land use change and forest fragmentation analysis: A geoinformatics approach on Chunati Wildlife Sanctuary, Bangladesh. *Rahman MF, Jashimuddin M, Kamrul Islam, Kumar Nath T (2016) Land Use Change and Forest Fragmentation Analysis: A Geoinformatics Approach on Chunati Wildlife Sanctuary, Bangladesh. J Civil Eng Environ Sci*, *2*(1), 020-029.

Redeł, A., Binkowska, A. A., Obarska, K., Marcowski, P., Szymczak, K., Lewczuk, K., ... & Bielecki, M. (2024). Evaluating the effectiveness of a mobile app-based self-guided psychological interventions to reduce relapse in substance use disorder: protocol for a randomized controlled trial. *Frontiers in Psychiatry*, *15*, 1335105.

Rollnick, S., & Heather, N. (1982). The application of Bandura's self-efficacy theory to abstinence-oriented alcoholism treatment. *Addictive behaviors*, *7*(3), 243-250.

Sinha, R., Fox, H. C., Hong, K. I. A., Hansen, J., Tuit, K., & Kreek, M. J. (2011). Effects of adrenal sensitivity, stress-and cue-induced craving, and anxiety on subsequent alcohol relapse and treatment outcomes. *Archives of general psychiatry*, *68*(9), 942-952.

Sinha, R., Garcia, M., Paliwal, P., Kreek, M. J., & Rounsaville, B. J. (2006). Stress-induced cocaine craving and hypothalamic-pituitary-adrenal responses are predictive of cocaine relapse outcomes. *Archives of general psychiatry*, *63*(3), 324-331.

Smith, M. A. (2021). Social learning and addiction. *Behavioural Brain Research*, *398*, 112954.

Spoth, R., Trudeau, L., Redmond, C., & Shin, C. (2014). Replication RCT of early universal prevention effects on young adult substance misuse. *Journal of Consulting and Clinical Psychology*, *82*(6), 949.

Sütlü, S., & Kutlu, Ö. (2024). Family and Family Functioning as an Indispensable Stakeholder of the Fight Against Addiction. In *Innovations, Securities, and Case Studies Across Healthcare, Business, and Technology* (pp. 416-437). IGI Global.

Thompson, M. J., Carlson, D. S., & Michele Kacmar, K. (2021). Family matters: The impact of family functioning on co-worker outcomes. *Human Relations*, *74*(9), 1504-1531.

Volkow, N. D. (2020). Personalizing the treatment of substance use disorders. *American Journal of Psychiatry*, *177*(2), 113-116.

Walsh, F. (2016). Family resilience: A developmental systems framework. *European journal of developmental psychology*, *13*(3), 313-324.

Wardle, M. C., Webber, H. E., Yoon, J. H., Heads, A. M., Stotts, A. L., Lane, S. D., & Schmitz, J. M. (2024). Behavioral therapies targeting reward mechanisms in substance use disorders. *Pharmacology Biochemistry and Behavior*, 173787.

Wilson, G. T. (1978). Booze, beliefs, and behavior: Cognitive processes in alcohol use and abuse. In *Alcoholism: New directions in behavioral research and treatment* (pp. 315-339).

Young, R. M., Oei, T. P., & Crook, G. M. (1991). Development of a drinking self-efficacy questionnaire. *Journal of Psychopathology and Behavioral Assessment*, *13*, 1-15.

Zeng, X., & Tan, C. (2021). The relationship between the family functioning of individuals with drug addiction and relapse tendency: A moderated mediation model. *International Journal of Environmental Research and Public Health*, *18*(2), 625.