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# FAMILY FUNCTIONING, SOCIAL CONNECTEDNESS, COGNITIVE DISTORTIONS, AND PSYCHOLOGICAL WELL-BEING AS CORRELATES OF POLYSUBSTANCE USE AMONG MALE POLYSUBSTANCE USERS IN PUNJAB

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## ABSTRACT

*Polysubstance use is defined as the simultaneous or sequential use of more than one psychoactive substance during a certain period and it is linked to serious psychosocial and clinical problems. The current research set out to explore psychosocial correlates of polysubstance use in Faisalabad in male drug addicts and to determine the predictive power of social and psychological factors. The correlational research design was used. A total of 201 male polysubstance users (M = 21.22, SD = 5.24) aged 18-30 years were sampled, using purposive and snowball sampling in rehabilitation centers in Faisalabad. Such measures were the General Functioning of Family Scale (GFFS), Social Connectedness Scale-Revised (SCS-R), Cognitive Distortion Scale (CDS), Flourishing Scale (FS), and Drug Abuse Screening Test (DAST-10). Findings revealed that the degree of social connectedness and psychological well-being had a negative relationship with polysubstance use, but family dysfunction and cognitive distortions were positively related to polysubstance use. The hierarchical multiple regression analysis indicated that cognitive distortion was a single factor that accounted 36% of the variance in polysubstance use. Introduction of social connectedness enhanced the variance that was explained up to 46%, and the addition of family functioning up to 48%. Findings highlight the significant role of family dynamics, social bonding, cognitive distortions, and psychological well-being in understanding polysubstance use.*

***Keywords:*** *polysubstance use, family functioning, social connectedness, cognitive distortion, psychological well-being*

## INTRODUCTION

The use of polysubstance is an increasing health issue in the population of the world, especially among young adults. It can be described as the consumption of more than one psychoactive substance at the same time or in sequence over a particular period of time (Crummy et al., 2020). Polysubstance use is more clinically complex, has worse treatment and relapses and is more

associated with psychiatric comorbidity (Ellis et al., 2023). Polysubstance use is a factor that heightens neurobiological susceptibility and makes psychological recovery difficult, so it is important to explore its psychosocial determinants (Rodríguez-Cano et al., 2023; Shahzadi et al., 2026).

In emerging economies like Pakistan, urbanization, unemployment, and social unrest are some of the reasons why the trend of substance use among young males is on the increase. Faisalabad, as one of the largest industrial cities in Pakistan, has its own socioeconomic stress factors, such as unemployment, financial instability, peer pressure, and urban pressures, which could lead to substance use among young males (Ghaus et al., 2022). Nevertheless, the use of substances cannot be described only in biological or pharmacological terms; psychosocial correlates have a significant role in the development and sustenance of addictive behavior (Javaid et al., 2026)

Family functioning has always been found to be a primary social determinant of substance abuse. Family systems theory proposes that maladaptive coping styles, such as substance use, can be promoted by dysfunctional family systems in terms of poor communication, lack of emotional warmth, inconsistency in discipline, and unresolved conflicts (Epstein et al., 1983). Persons brought up in these settings might become emotionally dysregulated and less resilient, becoming more prone to polysubstance use. Studies in Pakistan have also shown that parental discord, paternal withdrawal, and intermittent parenting are also important predictors of substance use initiation in young men (Batool et al., 2017; Asim et al., 2024).

Social connectedness, which is the feeling of belongingness and interpersonal proximity of an individual (Lee, 2001), acts as a safeguard against addiction. Good personal relationships improve emotional control and offer social support, and social isolation contributes to loneliness, hopelessness, and susceptibility to substance abuse. Persons with insignificant social relationships might resort to psychoactive drugs as the alternative ways of fulfilling the unfulfilled relationship demands. Research has repeatedly shown that substance use initiation and relapse are riskier actions linked to the lack of social connectedness (Crummy et al., 2020).

In addition to social factors, psychological correlates also have a significant effect on addictive behaviors. Substance users are characterized by cognitive distortions, which are logically structured errors in thinking that support maladaptive beliefs (Shakil, 2016). The mechanisms of addictive cognition are also characterized by rationalization (I can quit anytime), catastrophizing, overgeneralization and blame. These dysfunctional ways of thinking perpetuate drug-seeking and disrupt change motivation. Cognitive-behavioral theories of addiction highlight that it is the focus on these distortions that is the basis of a successful treatment (Beck et al., 1993).

Within the flourishing framework, the concept of psychological well-being is associated with positive functioning, purpose in life, competence, and self-acceptance (Diener et al., 2019). Reduced psychological welfare has been known to be associated with increased rates of substance abuse, and it can be inferred that the use of drugs can be used as maladaptive coping strategies to overcome emotional distress and existential dissatisfaction (Meng & D'Arcy, 2015). More prosperous individuals are more resilient to addictive behaviors than those with lower well-being are vulnerable to polysubstance use.

Although the evidence is increasing to support the association of the psychosocial variables with substance use, there is limited empirical study in Pakistan to evaluate both social and psychological predictors of polysubstance use in a predictive paradigm. Thus, this research project was intended to analyze the correlations between family functioning, social connectedness, cognitive distortions, psychological well-being, and polysubstance use and to determine the predictive value of these variables among male drug addicts in Faisalabad.

**Rationale of the study**

Polysubstance use is a multidimensional health issue that is not limited to pharmacological dependence but has complicated social and psychological predispositions (Grunberg, 2020). Despite the fact that the patterns of substance use have been greatly explored in the international literature, a little empirical research in Pakistani setting has been conducted systematically to examine psychosocial correlates of polysubstance use, especially with respect to young male addicts. The bulk of the currently available local research has either considered prevalence rates or individual psychosocial predictors, with the gap in the literature being a lack of insight into the joint impact of social and psychological variables within a single predictive model.

As one of the largest industrial cities in Pakistan, Faisalabad is characterized by distinctive socioeconomic stress factors such as unemployment, economic uncertainty, peer pressure, and urban pressures that can be associated with substance use among young men. There is little existing empirical evidence on the potential mechanisms through which family dysfunction, social isolation, maladaptive cognitive styles, and diminished psychological well-being all interact to affect polysubstance use. It is important to understand these variables in tandem since addiction is hardly ever caused by one factor alone; instead, it is a product of the relationship between environmental vulnerabilities and psychological processes in the individual (Crummy et al., 2020).

Additionally, rehabilitation programs in Pakistan tend to be more focused on detoxification and behavior control and might not be adequate in regard to cognitive distortions and psychological well-being deficiencies. The intervention programs will not be focused unless the relative predictive powers of the social and psychological correlates have been determined. The current study fills this gap through the use of hierarchical regression analysis to identify the incremental value of cognitive distortion, social connectedness and family functioning in the explanation of variance in polysubstance use.

The study offers empirical direction on the formulation of integrative intervention models that can include family-based therapy, cognitive restructuring, and well-being enhancement interventions by identifying modifiable psychosocial risk and protective factors. Therefore, the research adds to the body of literature on addiction in the Pakistani cultural setting both theoretically and practically.

**Hypotheses**

**$H_1$:** Family functioning, social connectedness, cognitive distortion, psychological wellbeing and poly-substance use will significantly correlate with each other in male drug addicts.

**$H_2$:** Family functioning and social connectedness will significantly predict polysubstance use among male drug addicts.

**$H_3$:** Cognitive distortions will significantly predict polysubstance use beyond the variance explained by family functioning and social connectedness.

**Methodology**

***Participants***

The sample comprised 201 male polysubstance users recruited from various drug rehabilitation centers in Faisalabad city. Participants ranged in age from 18 to 30 years (M = 21.22, SD = 5.24). Purposive and snowball sampling techniques were employed to select individuals who met the inclusion criteria of being current polysubstance users undergoing rehabilitation treatment. Only male participants were included in the study. Individuals with severe cognitive impairment or inability to comprehend the questionnaires were excluded.

**Instruments**

***Demographic Information Sheet***

A demographic information sheet was used to collect participants' background details including age, gender, Degree Program, residence, family system, Birth order, Number of Friends and Socioeconomic Status of the participants. This sheet provides descriptive information for sample characterization and is not scored.

***General Functioning of Family Scale (Epstein et al., 1983)***

The Urdu version of the GFFS assessed overall family functioning, including problem-solving, communication, roles, affective responsiveness, affective involvement, and behavioral control. The scale consists of 12 items rated on a 4-point Likert scale (1 = strongly disagree to 4 = strongly agree). Higher scores indicate healthier and more functional family dynamics, whereas lower scores reflect greater family dysfunction. In the present study, the scale demonstrated good internal consistency ($\alpha$ = .77).

***Social Connectedness Scale-Revised (Lee, 2001)***

The Urdu version of the SCS-R measures the degree of interpersonal closeness and a sense of belonging. It includes 20 items rated on a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree), with higher scores reflecting stronger social connectedness. The scale showed moderate reliability in the present sample ($\alpha$ = .65).

***Cognitive Distortion Scale (Shakil, 2016)***

The Cognitive Distortion Scale (CDS) measures maladaptive cognitive patterns including overgeneralization, catastrophizing, personalization and all-or-nothing thinking. The Urdu version has 20 items measured using a 5-point Likert scale (1 = never to 5 = always). The higher scores, the more there are cognitive distortions. The scale demonstrated a high internal consistency with the present sample ($\alpha$ = .83).

***Flourishing Scale (Diener et al., 2019)***

The Flourishing Scale (FS) is a measure of psychological well-being and positive functioning, purpose, optimism, self-esteem, and supportive relationships. In the Urdu version, there are 8 items measured on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree), and higher scores on the scale reflect a greater degree of psychological flourishing. The scale had a high internal consistency ($\alpha$ = .88).

***Drug Abuse Screening Test (Skinner, 1982)***

The severity and pattern of polysubstance use among the subjects were determined with the help of the Drug Abuse Screening Test (DAST). The test is comprised of 10 items and was confirmed to show good reliability within the present sample ($\alpha$ = .60). Increased scores in this measure represent more severity in polysubstance use.

**Procedure**

With the consent of the authorities of the identified drug rehabilitation facilities in Faisalabad, male polysubstance users aged 18 -30 years of age were sampled using purposive and snowball sampling methods. The respondents were briefed on the aim of the research, the confidentiality of their information, and their right to withdraw at any given time. Informed consent was received in writing before the participation. The survey questionnaires were conducted in a non-disturbing environment in the rehab centers. The participants were asked to fill in a demographic information sheet plus standardized Urdu versions of the General Functioning of Family Scale, Social Connectedness Scale- Revised, Cognitive Distortion Scale, Flourishing Scale, and Drug Abuse Screening Test. The mean completion rate was about 25-30 minutes. Responses were coded and entered into SPSS Version 25 after data collection had been done.

**Results**

**Table 1**

**Reliability Coefficient of Study Variables(N=201)**

| Scales | *M*(*SD*) | $\alpha$ |
|---|---|---|
| 1-Family Functioning | 24.49(2.51) | .77 |
| 2- Cognitive Distortion | 69.65(7.72) | .83 |
| 3- Flourishing Scale | 21.23(7.47) | .88 |
| 4- Social Connectedness | 19.68(4.85) | .65 |

| | | |
|---|---|---|
| 5-DAST | 12.95(1.48) | .60 |

***Note.*** M=Mean, SD=Standard Deviation, DAST= Drug Abuse Screening Test

Table 1 showed the internal consistency of the study instruments was examined using Cronbach's alpha ($\alpha$). The Family Functioning Scale demonstrated good reliability ($\alpha$ = .77). The Cognitive Distortion Scale showed excellent reliability ($\alpha$ = .83). The Flourishing Scale exhibited excellent internal consistency ($\alpha$ = .88), while the Social Connectedness Scale showed moderate reliability ($\alpha$ = .65). The DAST, consisting of 10 items, had acceptable reliability ($\alpha$ = .60). Overall, the results indicate that the instruments are sufficiently reliable for assessing the study variables in the current sample.

**Table 2**
**Correlation matrix for study variables(N=201)**

| Variable | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1-FF | ... | .24* | -.23*** | .47** | .29** |
| 2- CD | | ... | .63*** | -.67*** | -.35** |
| 3-DAST | | | ... | -.63*** | -.51*** |
| 4- FS | | | | ... | .30** |
| 5- SC | | | | | ... |

***Note.*** ***$p$<.001; **$p$<.01; *$p$<.05 FF= Family Functioning; CD= Cognitive Distortion; FS= Flourishing Scale; SC= Social Connectedness; DAST= Drug Abuse Screening Test

The results of Table 1 indicate the intercorrelation of all study variables, i.e., family functioning (FF), cognitive distortions (CD), social connectedness (ST), flourishing (FS), and the Drug Abuse Screening Test (DAST). Family functioning (FF) was positively correlated with flourishing (FS; $r$ = .47, $p$ < .01) and social connectedness total (SC; $r$ = .29, $p$ < .01), indicating that participants reporting healthier family functioning also reported higher levels of psychological well-being and social connectedness. Family functioning (FF) was negatively correlated with cognitive distortions (CD; $r$ = -.24, $p$ < .001), suggesting that better family functioning is associated with lower cognitive distortions.

Cognitive distortions (CD) showed a strong positive correlation with substance use screening test (DAST; $r$ = .63, $p$ < .001) and a negative relationship with flourishing (FS; $r$ = -.67, $p$ < .001), indicating that higher cognitive distortions are linked to greater polysubstance use severity and lower psychological well-being. Cognitive distortions (CD) were also found to have a moderate negative relationship with social connectedness ($r$ = -.35, $p$ < .01) which implies that those with higher cognitive distortions report a weaker social bond.

Drug abuse screening test (DAST) showed significant negative correlations with flourishing (FS; $r$ = -.63, $p$ <.001) and social connectedness (SC; $r$ = -.51, $p$ <.001), which confirmed the fact that the severity of polysubstance use correlates with lower levels of psychological well-being and less social connectedness. Lastly, the flourishing (FS) had a positive correlation with social connectedness (SC; $r$ =.30, $p$ <.01), which means that psychological well-being and social connectedness have a significant interrelation.

On the whole, these findings suggest that family functioning, social connectedness and flourishing are positively correlated with each other, but cognitive distortions are negatively correlated with these variables in accordance with the theoretical predictions on the importance of healthy family and social settings on psychological functioning.

Table 03
Hierarchical Regression Analysis for the Predictors of Polysubstance Use (N = 201)

| Predictors | B | *SE* | *β* | *t* | *p* |
|---|---|---|---|---|---|
| **Step I** | | | | | |
| Cognitive Distortion | −.116 | .011 | −.602 | −10.63 | < .001 |
| **Step II** | | | | | |
| Cognitive Distortion | −.093 | .011 | −.483 | −8.71 | < .001 |
| Social Connectedness | .104 | .017 | .340 | 6.13 | < .001 |
| **Step III** | | | | | |
| Cognitive Distortion | −.091 | .011 | −.472 | −8.59 | < .001 |
| Social Connectedness | .109 | .017 | .356 | 6.46 | < .001 |
| Family Functioning | −.079 | .031 | −.133 | −2.58 | .011 |

***Note.*** Step I ($R$ = .60, $R^2$ = .36, F (1, 199) = 112.99, $p$ < .001), Step II ($R$ = .68, $R^2$ = .46, $\Delta R^2$ = .10, F(2, 198) = 85.64, $p$ < .001), Step III ($R$ = .69, $R^2$ = .48, $\Delta R^2$ = .02, F(3, 197) = 60.95, $p$ < .001)

A hierarchical multiple regression analysis was conducted to examine the predictors of polysubstance use. In Step I, cognitive distortion alone was entered into the model. The model was statistically significant, F(1, 199) = 112.99, $p$ < .001, explaining 36% of the variance in polysubstance use ($R$ = .60, $R^2$ = .36). A negative predictor with a significant value was cognitive distortion (B = -.116, *SE* =.011, $\beta$ = -.602, $t$ = -10.63, $p$ = 0.001) which means that the more significant the cognitive distortion, the more severe the polysubstance use.

In Step II, social connectedness was added to the model. The overall model remained statistically significant, F (2, 198) = 85.64, $p$ < .001, and the explained variance increased to 46% ($R$ = .68, $R^2$ = .46, $\Delta R^2$ = .10). Cognitive distortion remained a significant predictor (B = −.093, *SE* = .011, $\beta$ = −.483, $t$ = −8.71, $p$ < .001), and social connectedness emerged as a significant positive predictor (B = .104, *SE* = .017, $\beta$ = .340, $t$ = 6.13, $p$ < .001), indicating that higher social connectedness was associated with lower polysubstance use severity.

In Step III, family functioning was added to the model. The overall model remained significant, F(3, 197) = 60.95, $p$ < .001, and the explained variance increased to 48% ($R$ = .69, $R^2$ = .48, $\Delta R^2$ = .02). Cognitive distortion (B = −.091, *SE* = .011, $\beta$ = −.472, $t$ = −8.59, $p$ < .001) and social connectedness (B = .109, *SE* = .017, $\beta$ = .356, $t$ = 6.46, $p$ < .001) remained significant. Family functioning also emerged as a significant negative predictor (B = −.079, *SE* = .031, $\beta$ = −.133, $t$ = −2.58, $p$ = .011), indicating that poorer family functioning was independently associated with greater polysubstance use, even after controlling for cognitive distortion and social connectedness.

## Discussion

The current research set out to investigate the psychosocial predictors of polysubstance use in male drug addicts in Faisalabad, specifically, family functioning, social connectedness, cognitive distortions, and psychological well-being (flourishing). The results offer a lot of evidence of the multidimensionality of substance use and the interplay of social and psychological factors.

The findings favored the first hypothesis, which meant that there was a significant correlation of all the study variables. There were positive correlations between family functioning, flourishing, and social connectedness, and a negative relationship between cognitive

distortions and family functioning. These results are in line with the family systems theory which assumes that emotional regulation and adaptive coping are promoted in healthy family systems and maladaptive cognitive and behavioral consequences in dysfunctional families (Epstein et al., 1983).

As with previous studies, the participants who reported superior family functioning were less likely to have cognitive distortions. This is corroborated by Shek (2002) who established that positive family settings relate to improved psychological adaptability and less Maladaptive thinking patterns. On the same note, the negative relationship between cognitive distortions and flourishing is significant and in line with the results of Diener et al. (2010), the psychological well-being is negatively correlated with maladaptive cognition.

Moreover, the inverse correlation between polysubstance use (DAST) and both flourishing and social connectedness confirms available literature that suggests people with worse social connection and inferior well-being are more susceptible to substance abuse (Lee et al., 2001; Crummy et al., 2020). The social isolation and feelings of not belonging can lead to the more frequent use of substances as coping strategies.

The results also supported the second hypothesis, which showed that social connectedness and family functioning were significant predictors of polysubstance use. Even with the adjustment of cognitive distortions, social connectedness stood out as a good predictor. This underscores the protective value of interpersonal relations in decreasing substance use behaviors. The results are in line with belongingness theory, which postulates that human beings have an intrinsic need to be connected with others, and a lack of connection with others causes psychological distress and maladaptive behaviors (Baumeister & Leary, 1995). On the same note, Lee and Robbins (1998, 2001) discovered that people whose social connectedness is low are susceptible to substance use and emotional sufferings.

Family functioning was also a predictor of substance use with a smaller effect size than that of cognitive distortions and social connectedness. Kumpfer and Alvarado (2003) have supported this result by highlighting that dysfunctional family settings lead to substance use due to inadequate monitoring, ineffective communication, and emotional support.

The findings were in favor of the third hypothesis to a large extent, which means that cognitive distortions were significant predictors of polysubstance use that was not explained by social variables. Cognitive distortions proved to be the best predictor, with a large percentage of variance in substance use being accounted.

This observation ties with the Cognitive Theory of Addiction as proposed by Beck (1993) who argued that maladaptive beliefs and automatic thoughts are central to sustaining addictive behaviors. Distorted thinking patterns among substance users include rationalization, denial and catastrophizing, which participate in reinforcing drug-seeking behavior.

Shakil (2016) also supports the strong positive relationship between cognitive distortions and substance use because distorted thinking patterns are common among substance users in Pakistan. Also, Najavits (2002) pointed out that cognitive distortions disrupt treatment outcomes through the lack of motivation to change and risk of relapse. Additionally, the current results are in line with the findings of Gull et al. (2024), who highlighted the role of psychological factors in predicting substance use. They found that psychological flexibility moderates the impact of stigma, psychological distress and quality of life in substance users. Participants with higher psychological flexibility were able to effectively cope with negative emotional states and social stigma, thereby enhancing psychological functioning. By contrast, the present study focuses on the counter-productive component of this construct cognitive distortions which were found to be strong predictors of polysubstance use. While Gull et al. (2024) examined adaptive cognitive mechanisms, the current results indicate that cognitive distortions hinder coping skills, and predispose individuals to substance use. This juxtaposition highlights the importance of cognitive factors in the development and alleviation of addiction.

The hierarchical regression analysis showed that the largest percentage of variance (36%), was explained by cognitive distortions, the next percentage (10%), was explained by social connectedness, and the final percentage (2%), was explained by family functioning. This implies that social factors do not play a dominant role in describing polysubstance use as compared to internal psychological processes. These results are in line with the biopsychosocial model of addiction that focuses on the interplay between the environment and the individual (Engel, 1977). The family and social environments seem to have both direct and indirect effects on the use of substances in the current study by affecting the processes of cognition.

The research results are specifically applicable in the Pakistani cultural context. In collectivistic cultures such as in Pakistan, family and social relations are at the forefront in determining the behavior of an individual. It can thus be seen that weak family ties and low social bonds can influence psychological functioning and predisposition to addiction more strongly than individualistic cultures do. Also, these psychosocial risks can be aggravated by socioeconomic stressors in Faisalabad, including unemployment and urban pressures, which also contribute to substance use behaviors.

**Conclusion**

The current research points to the fact that polysubstance use is an experience of a compound interaction of psychosocial factors. Cognitive distortions were found as the strongest predictor, but social connectedness and family functioning were also significant. The results highlight the significance of considering both internal mental factors and external societal surroundings during addiction treatment and prevention.

**Limitations and Future Directions**

The current research has a number of limitations. First, the cross-sectional design does not allow drawing causal conclusions; longitudinal research is required to define the sequence of psychosocial factors and polysubstance use in time. Second, the sample of male individuals only limits the generalization to the female and transgender populations that might have a different psychosocial profile. Third, the use of self-report measures implies the risk of social desirability bias, especially in a stigmatized group. Fourth, the sample was not representative of non-treatment-seeking persons or other parts of Pakistan because it was restricted to rehabilitation centers in Faisalabad.

Future studies ought to use longitudinal and mixed methods designs to determine the causal relationships among psychosocial variables and polysubstance use. Mediation models should be tested in future studies. To enhance generalizability, researchers ought to incorporate dissimilar gender and geographical samples. The family-based therapy and cognitive-behavioral intervention should be incorporated into clinical programs that address the concept of cognitive restructuring, the development of social connectedness, and psychological well-being to minimize polysubstance use and relapse.

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