

Impact of Parents Conflict on Substance Abuse Initiation with Prescription Drugs Dependence as Moderator and Mediating Role of Post-Traumatic Stress Disorder

Ashiq Ali¹

¹*Faculty of Management Science, Riphah International University, Islamabad*

ashiqali005@gmail.com

Saba Waheed²

²*Faculty of Management Science, Riphah International University, Islamabad*

ABSTRACT

This study aims at finding whether parents conflict has impact on initiation of substance abuse, as this main factor leads to the mediating effect of post-traumatic stress disorder in individuals. Specific objective includes the study of moderating effects of prescription drugs dependence on substance abuse initiation following post-traumatic stress disorder. The data was collected from the 293 patients of rehabilitation centers and psychiatrists' clinics and young students of universities in Rawalpindi and Islamabad, Pakistan. Questionnaires were distributed among those individuals and sampling was done using convenience sampling method. Statistical analysis include correlation and regression techniques. Based on the statistical results, all the suggested hypotheses were found to be supported. Henceforth, the study finds that parent's conflict is positively correlated with initiation of substance abuse in young adults following post-traumatic stress disorder as the triggering factor. The positive moderating effect of prescription drug dependence is also profound in the initiation of substance abuse. This study would be helpful in the development of such intervention strategies in future that would prevent the growing harmful issue of substance abuse. This is because the root causes of this serious issue being identified through this study would benefit in addressing all these issues more precisely. Strict check and balance is required for dispensing of prescription medicines along with the provision of basic cohesive family environment to children for their better development and behavioral outcome.

Keywords: Parents' conflict, Prescription drug dependence, Post-traumatic stress disorder, Substance abuse initiation.

Highlights

- Parents Conflict has significant positive impact on substance abuse initiation.
- PTSD has direct significant positive impact on substance abuse initiation.
- PTSD mediates the relationship between domestic violence and substance abuse initiation.
- Prescription drug dependence has significant positive moderating effect between PTSD and substance abuse initiation such that if prescription drug dependence is high the relationship is stronger.

- Substance abuse initiation could be prevented if we provide cohesive and lovable family environment to the individual.
- Also, drug dependence could be prevented by strict monitoring of prescription drugs.

1.0 Introduction

Basically, substance use is a terminology that pertains to drug or alcohol intake, including tobacco, synthetic tranquilizers, prescription or non-prescription medications, or inhalants ([Sahar, Riaz, & Khan, 2020](#)). With emerging ease of access to drugs like marijuana, alcohol, cannabis, heroine tobacco cigarettes, etc. and the availability of modern technological tools like drug delivery devices, substance use has become very common and convenient especially for youth ([Volkow et al., 2018](#)). Various risk factors increase the vulnerability of substance use initiation in adolescence or adulthood. These factors could be social, environmental, cultural, or physiological which in one way, or the other are quite interconnected to one another. The multifaceted risk factors for substance use initiation include genetic factors, family history of substance use, family functioning, parenting process, cultural differences, gender-based personality traits, peer pressure, and influence. Therefore, it is important to deeply root out the possible factors that have a strong association with the increasing substance abuse initiation (SAI) ([Raimi, Funmilayo, Major, Okoyen, & Bilewu, 2019](#)).

Family plays a pivotal role in the development of the overall personality and well-being of children. The disruptive marital relationship of parents has an everlasting negative impact on the psychosocial behavior of children. Children

who are exposed to the parents' conflict are at greater risk for developing physical and mental health problems as they fail to develop social competencies and lack their behavioral and emotional regulation skills which lead to adverse mental health outcomes like aggression, apprehension, and hostility ([Musick, & Meier, 2010](#)). Previous studies suggested that childhood adversities like constantly witnessing parental conflict, separation, and neglect from parents, negatively impact the physical as well as mental health of an individual. Mental disturbances associated with these stressful problems could be post-traumatic stress disorder (PTSD), which in turn increases the risk for substance use ([Choi, DiNitto, Marti, & Choi, 2017](#)). Children who witness parents' conflict exhibit more trauma symptoms than the ones who do not witness it ([Levendosky, Huth-Bocks, Semel, & Shapiro, 2002](#)). In addition to parental conflicts, PTSD could be the aggravating factor in children developing substance-related behavior issues ([Panuzio, Taft, Black, Koenen, & Murphy, 2007](#)).

It has been suggested that PTSD and substance use disorder are comorbid in general. This is in order to get rid of the symptoms (like anhedonia) associated with PTSD, people are more inclined towards self-medication with the use of alcohol or other recreational drugs ([Maria-Rios, & Morrow, 2020](#)). There is a strong association between non-medical usage of prescribed drugs and substance abuse. Alcohol use

disorder is more common in non-medical users of drugs that are prescribed. Studies have indicated that uncontrolled use of prescribed medications other than medicinal needs has drastically resulted in the rise of substance abuse cases ([McCabe, Cranford, & West, 2008](#)). Agnew's General Strain theory propose that parental mistreatment and interpersonal violent behavior mediates the emotion of anger which is positively correlated with initiation of substance use as a get-by strategy ([Agnew, 1992](#)).

The need of time is to not only control the increasing cases of substance abuse but also prevent the initiation of substance abuse from the start. This could only be possible if we identify the possible root causes of this issue related to the personal individual life experiences. Therefore, the present study utilized the explanatory approach to examine the impact of parents' conflict on substance abuse initiation along with the mediating role of PTSD. Moreover, prescription drug dependence has been exponentially increased leading individuals to substance abuse, so its moderating impact is to be studied as being the novelty of the present research.

The main significance of this study is that research gap has been assessed in this study by incorporating prescription drug dependence as moderator. Also, the beneficiaries from this study include healthcare authorities, policy makers, law enforcing agencies and NGO's working on parenting practices. New healthcare interventions in the field of substance abuse and mental health could be implemented so as to avoid such issues.

Methods

Participants

The data was collected from students of public and private universities and patients of rehabilitation centers of Rawalpindi and Islamabad. Students of universities and patients of rehabilitation centers were chosen because of increased prevalence of substance abuse in this population. Respondents that were young students and patients were selected by using non-probability convenience sampling technique. The data was collected using an online platform which is Google Forms for ease of access to the chosen participants. Also, hard copy of validated questionnaires was distributed on field surveys to the individual participant. Informed consent was obtained, and respondents were asked for voluntary participation as anonymity and confidentiality of the responses was ensured to the respondents.

Total 307 questionnaires were distributed out of which 298 were completed and returned and 293 were usable. Other were discarded due to insufficient data.

The majority of respondents were males 57.7% while 42.2% respondents were females, 64.6% of respondents were 18-25 years of age, 32.6% were in 26-40 age group, 2.7% were 41-60 years old. Marital status showed that 69.1% were single while 15.5% were married and remaining 15.4% were included in divorced and separated group. Family structure showed maximum responses indicating substance abuse being in a nuclear family structure making up to 42.6%.

Procedures

Individual respondents were chosen from rehabilitation centers and university students and the data has been cross-sectionally gathered using self-administered questionnaires through both online and field surveys. This has minimized the chances of interference in research and is found to be the most affordable method of study. Respondents were given full freedom to fill the questionnaires entirely based on their own opinions and will, without any biasedness or external influence. After reviewing literature from previous research, this technique has been selected as the most reliable, well-suited, and convenient method for this study.

Measures

All the study variables were measured on a 5-point Likert scale.

Parents Conflict

Parents' conflict was measured using a 23-item scale developed by [\(Grych, Seid, & Fincham, 1992\)](#). The value of Cronbach's alpha is measured by applying a reliability test on all items of the given scale. The results have been found to be 0.892. Sample items included "I often see my parents arguing." The items were analyzed on a 5-point scale from (1) Strongly Disagree to (5) Strongly Agree.

Post-traumatic stress disorder

Post-traumatic stress disorder was measured using a 17-item scale developed by [\(Davidson, Smith, & Kudler, 1989\)](#). The reliability test indicated the Cronbach's alpha value of 0.881. Sample items included "Have you had painful images, memories, or thoughts of the event?" The degree of

response to the given variable has been found by utilizing a 5-point Likert scale for the items anchored as (1) Not at all (2) Little bit (3) Moderately (4) Quite a bit (5) Extremely.

Prescription Drug Dependence

Prescription drug dependence of participants was measured using a 13-item scale developed by [\(Fach, Bischof, Schmidt, & Rumpf, 2007\)](#). The Cronbach's alpha value of the given scale was 0.898. Sample items included "I have difficulties falling asleep without drugs." The 5-point scale is adjusted as (1) for Strongly Disagree up to (5) for Strongly Agree

Initiation of Substance Abuse

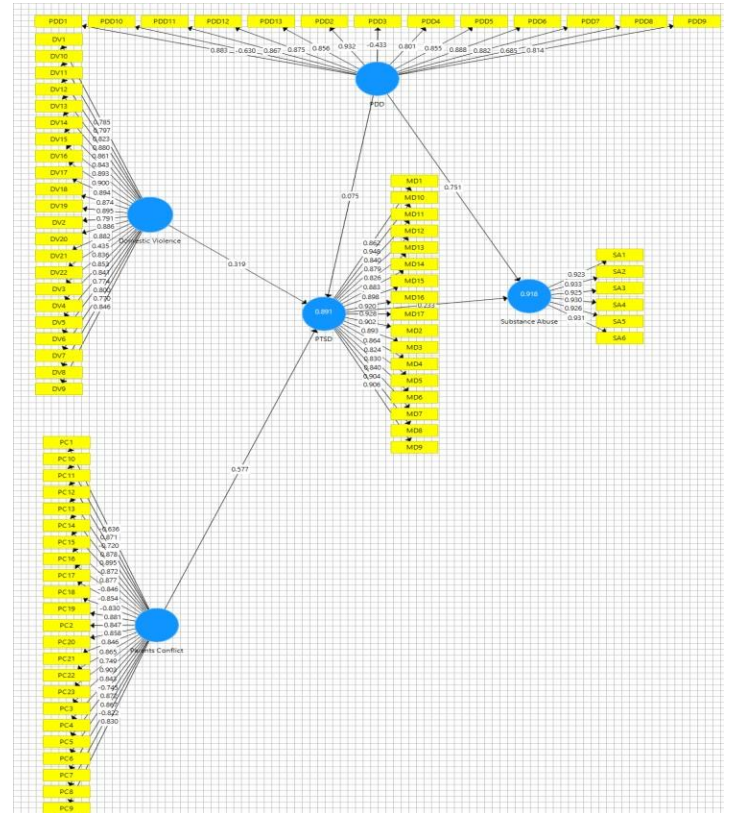
Initiation of substance abuse by participants was measured using a 6-item scale developed by [\(Winters, 1992\)](#). The results of Cronbach's alpha value were 0.895. Sample items included "How often have you used alcohol or drugs secretly, so nobody would know you were using?" The 5-point scale has been adjusted based on the frequency of substance use by the respondent. From (1) Never to (5) Always

Data Analytic Plan

Stepwise illustration of the techniques adopted for analysis of data collected has been elaborated below:

- All responses were compiled in excel sheet and were coded as per convenience for later use in SPSS software and Smart PLS.
- Smart PLS software has been used to perform Confirmatory Factor Analysis (CFA).

- all the study variables in a construct. It helps to find the reliability of scales by five values that include factor item loading, Cronbach alpha value, average variance extracted, composite reliability and discriminant validity. The results of confirmatory factor analysis model level 1 and 2 are demonstrated in the figure 1 given below:



The results shows the factor loadings of each variables items and construct reliability and validity value. Each item factor loading must be >0.5 . Any value of factor loading below 0.5 must be deleted to ensure scale validity. For all the variables their factor item loadings are mentioned and the items with loading value <0.5 are deleted to get accurate results. PDD3, PDD10, DV22, PC1, PC4, PC12, PC 14,

Smart PLS

Latest software in the form of smart PLS is used to study the relationship and linkage between study variables. It is used to validate the scales of variables and ensure their reliability.

Confirmatory factor analysis is a type of statistical methods used to study and analyze

PC16, PC17, and PC18 have less factor loadings so they are omitted.

Table 1 Factor Loadings and Convergent Validity

Variables	Cronbach Alpha	Composite Reliability	Average Variance
Parents Conflict	0.873	0.946	0.715
PTSD	0.983	0.983	0.774
Prescription Drug Dependence	0.971	0.971	0.753
Substance Abuse Initiation	0.974	0.974	0.861

The above-mentioned table depicts the values of item factor loading, average variance, Cronbach's alpha and composite reliability of all the five study variables. The figure 2 below shows items with only those factor loadings above 0.6. Other items have been omitted for better accurate results after performing CFA level 2 test.

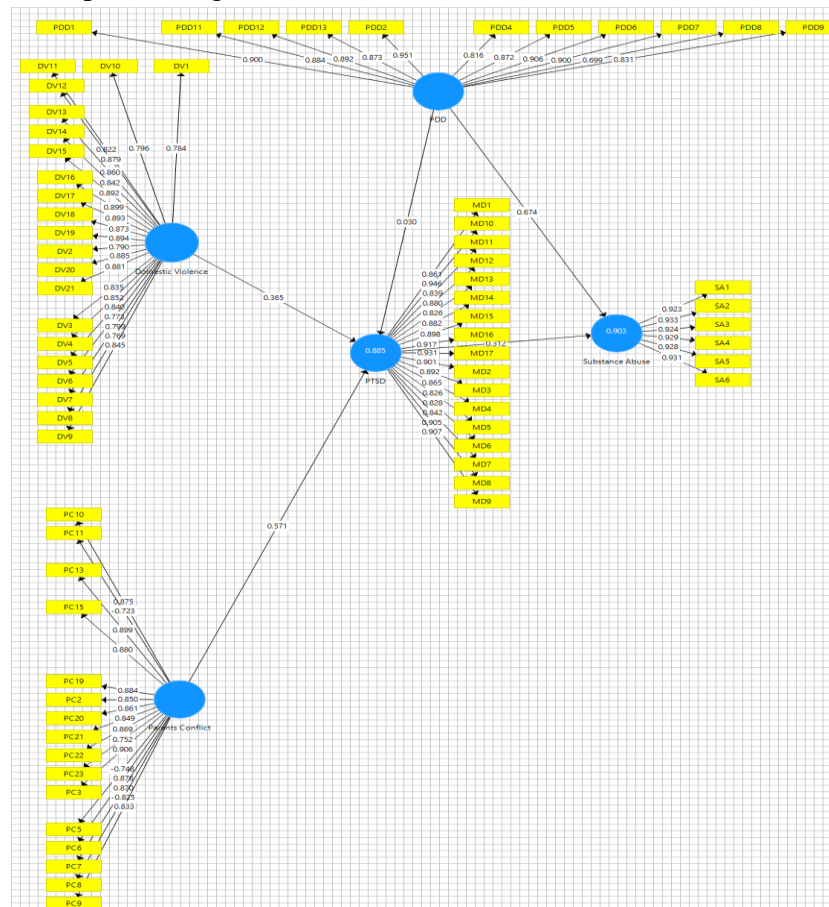


Figure 2 Confirmatory Factor Analysis Level 2

The table given below depicts the values of discriminant validity. Discriminant value shows that variables are statistically different. It tells whether the two variables are related to each other and how much.

Table 2 Discriminant Validity

	Parents conflict	PTSD	Prescription Drug Dependence	Substance Abuse Initiation
Parents Conflict	0.868			
PTSD	0.835	0.880		
Prescription Drug Dependence	0.857	0.848	0.876	
Substance Abuse Initiation	0.884	0.875	0.868	0.928

Descriptive Statistics.

There are four variables in the present study which include parents' conflict, PTSD, prescription drug dependence, and substance abuse initiation. And all these four variables are evaluated on a 5-point Likert scale individually. In descriptive statistical analysis, mean values and standard deviations of the responses from mean values of the given study variables, have been assessed. In table 1 given below, the summary of calculated descriptive data for each variable is presented individually in the form of numerical values of mean and standard deviations.

Table 3: Descriptive Statistical Analysis

	N	Mean	Standard deviation
Parents Conflict	293	3.5358	1.03636
PTSD	293	3.5326	1.31275
Prescription drug dependence	293	3.4909	1.11231
Substance Abuse Initiation	293	2.9168	1.43919

N= total number of responses.

Correlation Analysis

A correlation test in statistical evaluation is important to determine the strength of the relationship between two or more study variables. For this purpose, the Pearson correlation technique is used in this study. Correlation analysis depicts the simultaneous variation between variables in relation to one another. It means if one variable fluctuates the other also changes either in a parallel manner that represents the case of positive correlation between variables under consideration. Table 2 illustrates the positive correlation between all the study variables.

Table 4: Mean, Standard Deviation and Correlation Analysis

		Mean	SD	1	2	3	4
1	Parents' Conflict	3.37	1.07	1			
2	PTSD	3.53	1.03	.322**	1		
3	Prescription drug dependence	3.53	1.31	.349**	.346**	1	
4	Substance abuse initiation	3.49	1.11	.289**	.291**	.318**	1

N=293, SD= Standard deviation, *p<.05, **p<.01, ***p<.001

Regression Analysis

Impact of Parents' Conflict on SAI

Regression statistical test in SPSS has been examined to assess the causal inferences so as to prove the impact of one variable on the other particularly the focal variable under study. The results obtained after regression analysis are exhibited in table 3. The reviewed data indicates that hypothesis 1 that is parents' conflict has a significant positive impact on substance abuse initiation, is supported with the above-mentioned results of regression analysis shown with significant ($p < .001$), positive β (.376) value. The given results can be explained as one unit change in parents' conflict would have 37 units positive effect on initiation of substance abuse.

Table 5: Linear Regression Analysis

Predictors	Substance Abuse Initiation		
	β	R^2	ΔR^2
Step 1			
Gender	-1.084***		
Marital Status	.196*		
Family Structure	-.544***	.432	.432
Employment Status	-.839***		
Education	-.015		
Parents' Conflict	.376***	.687	.251

N=293, *p<.05, **p<.01, ***p<.001

Impact of PTSD on SAI

Data illustrated in table 4 below depicts that PTSD has significant positive impact on SAI with ($p < .001$) and ($\beta = .688$). The given data indicated 68 units change on initiation of substance abuse by one unit change in the existence of PTSD.

Table 6: Linear Regression Analysis

Predictors	Substance Abuse Initiation		
	β	R^2	ΔR^2
<u>Step 1</u>			
Gender	-1.084***		
Marital Status	.196*		
Family Structure	-.544***	.432	.432
Employment Status	-.839***		
Education	-.015		
<u>Step 2</u>			
PTSD	.688***	.652	.234

N=293, * $p < .05$, ** $p < .01$, *** $p < .001$

Moderated Regression Analysis

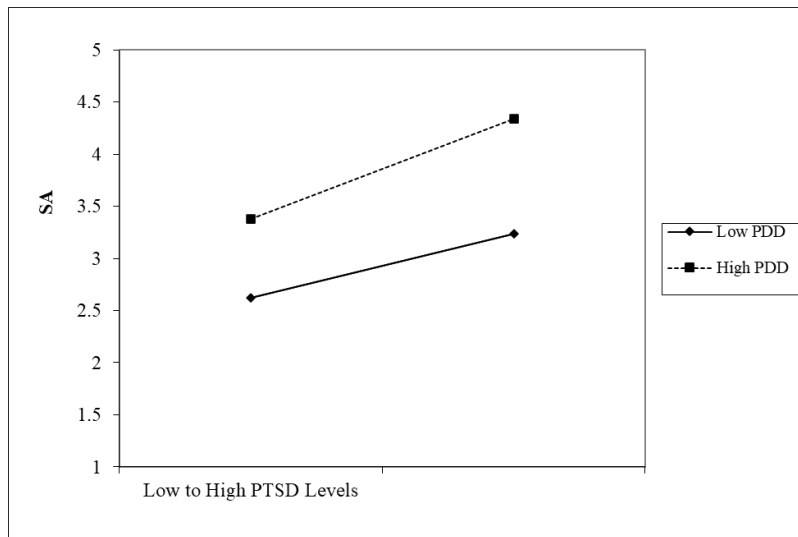
Moderating variable in the given proposed model is the one that either strengthens or weakens the magnitude of the relationship between the independent and dependent variable. So, moderation analysis of regression is done to figure out if the suggested hypothesis is supported in relation to the effect of moderator i.e., prescription drug dependence on substance abuse initiation being a dependent variable of the present study design. The results demonstrated in table 5 and graphical representation in fig.1 shows that prescription drug dependency ($\beta = .79$, $p < .001$), and PTSD ($\beta = .38$, $p < .001$) have a significant positive impact on substance abuse initiation. The combined interactive effect depicts that prescription drug dependence significantly moderates the association between PTSD and substance abuse initiation. Additionally, the positive results of LLCI and ULCI (95%) indicated by the presence of positive sign with both the value along with the significant value of $< .001$, provide support to the proposed hypothesis stating that prescription drug dependence positively moderates the relationship between PTSD and initiation of substance abuse, provided that the initiation of substance abuse increases if the prescription drug dependence increases and vice versa.

Predictors	Substance Abuse Initiation			
	β	p	LLCI	ULCI
PTSD	.38	$< .001$.24	.52
Prescription drug dependence	.79	$< .001$.63	.96

Int_1	.17	< .001	.08	.25
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Table 7: Moderated Regression Analysis

Note: β =beta value, p= significant value, LLCI= lower limit confidence interval, ULCI= upper limit confidence interval



SA= Substance abuse initiation, PDD= prescription drug dependence, PTSD= post-traumatic stress disorder

Figure3: Moderation Effect of Prescription Drug Dependence between PTSD and Substance Abuse Initiation

Mediated Regression Analysis

The conclusion drawn from table 6 mentioned below, could be summarized by examining the β value and values of the confidence interval. The direct impact of parents' conflict is significantly positive on substance abuse initiation ($\beta=.325$, $p < .001$). PTSD is also found to have a significant positive relationship with substance abuse initiation ($\beta=.474$, $p < .001$). The indirect effect and direct effect both are significantly positive on substance abuse initiation, so this is partial mediation. Henceforth, these results substantiate support to hypothesis 4 in such a way that PTSD mediates the relationship between parents' conflict and substance abuse initiation.

Table8: Mediated Regression Analysis

IV's	Effect of IV on M	Effect of M on DV	Direct Effect	Bootstrapping results for indirect effects		
				Indirect Effect	LL 95 CI	UL 95 CI

Parents'	.995***	.474***	.325***	.515	.307	.774
Conflict						

* $p < .05$, ** $p < .01$, *** $p < .001$, IV= independent variable, M= mediator, DV= dependent variable, LL= lower limit, UL= upper limit, CI= confidence interval

4.0 Discussion

The abovementioned results show that individuals who witness conflict amongst their parents in a household are significantly prone to initiate substance abuse. The result findings of this study are in line with most of the previously stated research findings.

Children who frequently get exposed to toxic environments especially in their homes which is the prime hub of their nurturing and growth, adapt and endure more obnoxious traits and emotions. Relationship among all the family members is important in providing a stable and caring environment to the kids so that their personalities blossom with greater positivity. Contrary to that if children watch their parents' interpersonal conflict all the time, they get frustrated, feel detachment from their parents, helplessness, and contempt. To counter their feelings of emptiness and despair they tend to get more rebellious and hostile. In doing so they find initiating substance abuse as the easiest and most comforting way to escape from harsh realities. This is the reason prior researchers claimed conflicting situations between parents as a major risk determining factor for initiation of substance abuse (Fosco, & Feinberg, 2018). It has been implied that substance abuse could be jeopardized if family dynamics provided to children include decreased hostility between parents, a sense of affection and support from

parents for their child. Individuals provided with cohesive family functioning are at less risk of initiating substance abuse as compared to those who live in a conflictual setting facing disagreement between parents (Xia, Weymouth, Bray, Lippold, Feinberg, & Fosco, 2019).

Researchers found substance abuse as one of the most adopted strategies for the regulation of emotions associated with depression mainly. This study investigations also demonstrate the relationship between PTSD and substance abuse initiation. Downregulation and suppression of depressive episodes are characterized by numerous coping strategies as per the assertion of the self-medication hypothesis. This finding of the current study has also been explained in prior research (Gilhooly, Bergman, Stieber, & Brown, 2018).

The moderating role of prescription drug dependence between PTSD and initiation of substance abuse has been approved in the present study. The said relationship is in such a way that with a higher occurrence of dependence on prescription drugs the relationship between PTSD and substance abuse is strengthened. This finding has empirical support from previous research as well. Elaborating the fact, it is known that individuals with PTSD having some history of unfavorable experiences need to overcome the symptoms associated with this disorder. Even if they are up to certain

medication for their disorder, they end up misusing that medication for purposes other than those intended for medical needs. This is because most medications are potent and have properties to cause dependence and withdrawal effects in the user. So, the dependency on such medication leads them to the initiation of substance abuse. Prescription drug monitoring is essential to avoid such negligence in all aspects. A similar study was found documented by [McCauley et al. \(2009\)](#), in which researchers examined the high risk of substance abuse initiation among rape victims suffering from PTSD. Therefore, to control the initiation of substance abuse due to the easy access and dependence effect of prescription medications, it is important to strictly monitor the prescribed doses and even the required quantity of, especially controlled drugs. At pharmacies, E-prescription and computerized records of controlled prescriptions having a stamp of the registered prescribing physician must be maintained.

5.0 Limitations

Several limitations related to this study could be improved and addressed by future researchers to make their findings more precisely dependable. The sample size of this study was limited to 293 respondents. Also, the research findings were conducted using the convenience sampling method. Therefore, to make the authenticity of results to be applied on a whole lot of population increased sample size with some other probability type sampling method is advised to be used in future research. In this way, the generalizability of results can be

ensured in the future. Future researchers are advised to perform the time-lapse method for data collection to forestall all kinds of bias for example, by researcher interference. Apart from these certain technical parameters, future research may include any other variable, that might be having one with a negative impact on the initiation of substance abuse. This could be more helpful in contributing towards combating such sensitive issues. Even the moderator prescription drug dependence, used in this study can be used by future researchers as any other independent or dependent variable to make a valuable contribution in this domain.

6.0 Conclusion

In the light of the results obtained through this study, it has been concluded that the rapidly aggravating problem of substance abuse has a lot of environmental, social, mental, and physiological reasons associated with its cause. Since parents' conflict is an important environmental adversity understudy faced by most of the children, especially in Pakistan. This issue has a detrimental effect on their mental health in the form of psychological disturbances like PTSD. Hence it has been found as a trigger towards the initiation of substance abuse. The important examination in this study regarding prescription drugs indicated that if prescribed drugs go unnoticed to such sensitive individuals, the physiological changes leading to the dependency of potent medications and their easy availability, compel them to initiate substance abuse. Parents need to pay attention to the stability of their marital

relationship also which helps in the healthy development of a child.

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Disclosure statement

We declare that we have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix Tables

Table 3 Factor Loadings and Convergent Validity

Variables	Cronbach Alpha	Composite Reliability	Average Variance
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*p<.05, **p<.01, ***p<.001, IV= independent variable, M= mediator, DV= dependent variable, LL= lower limit, UL= upper limit, CI= confidence interval

Figures

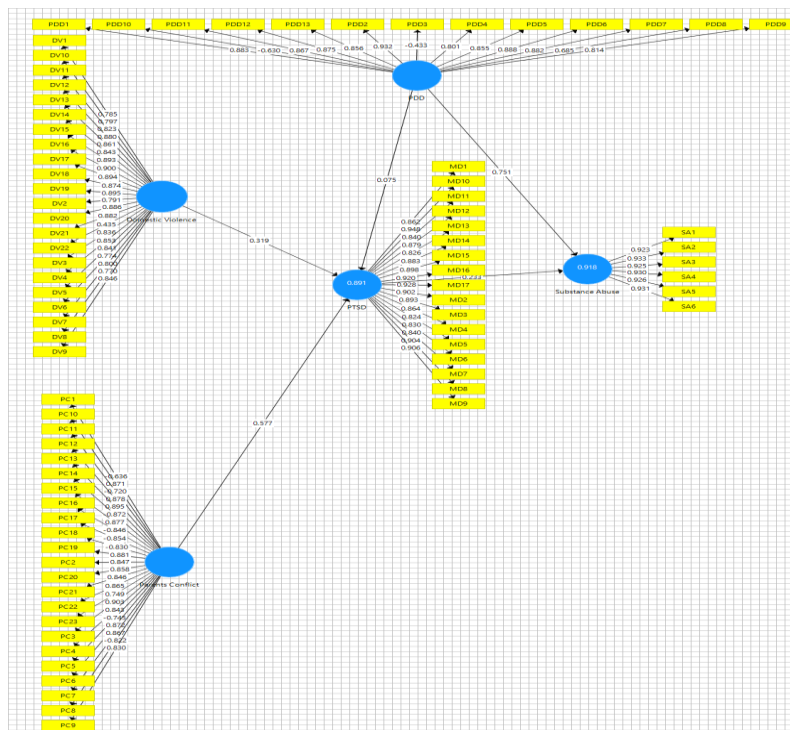


Figure 3 Confirmatory Factor Analysis Level 1

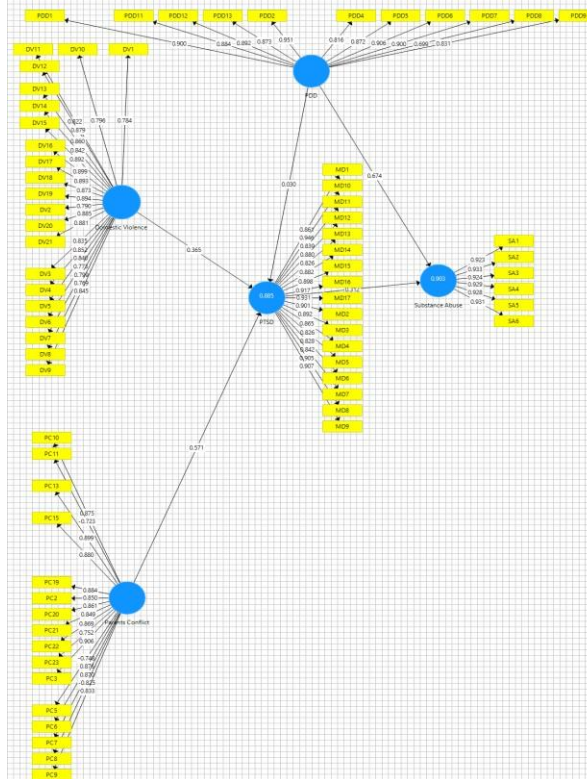
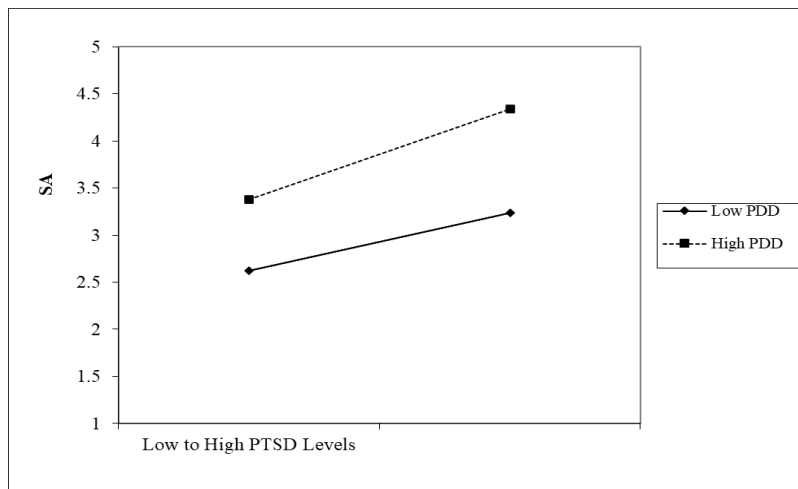


Figure 4 Confirmatory Factor Analysis Level 2



SA= Substance abuse initiation, PDD= prescription drug dependence, PTSD= post-traumatic stress disorder

Figure3: Moderation Effect of Prescription Drug Dependence between PTSD and Substance Abuse Initiation