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## Impact of Behavioral and Psychosocial Factors on Relapse among Persons with Substance Use Disorder

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The present study was conducted to explore the impact of behavioral factors on relapse among drug addicts and moderating role of psychological factors. The study was carried out on male drug addicts from different cities in Punjab. The sample was comprised of (N = 200) male drug addicts. The sample was selected by using purposive sampling. The General Health Questionnaire, Patient Depression Questionnaire PHQ-9, Drug Abuse Screening Test-10, Perceived Stigma of Substance Abuse Scale, Adaptability, Partnership, Growth, Affection and Resolve, Alcohol Use Disorder Identification Test and The Advance Warning of Relapse Questionnaire were used in the current study. Alpha coefficients and correlation matrix for all variables were computed. Moderation analysis further revealed that perceived stigma significantly moderated the relationship between drug and alcohol abuse severity and warning of relapse. The family function also moderated the relationship between drug and alcohol abuse severity and the sign of degeneration. It was found that Perceived stigma significantly moderated the relationship between alcohol and drug abuse severity and warning of relapse.



## Introduction

Addiction is defined as a psychological urge for substance use that results in clinically substantial impairment or suffering and occurs within a 12-month time frame. Tolerance, withdrawal and other symptoms are all signs of it. Around 15.9 million people take drugs all over the world and the highest concentrations are in China, the United States and Russia [1]. The reported annual prevalence of all illegal drug use in Pakistan was 6%. Pakistan has a 3.6 percent cannabis use rate compared to 2.4 percent opioid use, 1.4 percent tranquilizer use, 0.08 percent amphetamine use, 0.03 percent solvent use and 0.01 percent cocaine use. Punjab has the highest rate of intravenous drug abusers of any province, while Lahore's heroin and opium junkies have the highest rate of polydrug addiction [2]. Globally, two-thirds of addicts also suffer from a coexisting mental health condition [3]. Drug users frequently cite a desire to try new things as one of their motivations [4].

Drug addiction is one of the most stigmatized disorders in the Western world, particularly opioid addiction [5]. Stigma is the process of depreciating and discrediting others because they exhibit an undesirable attribute [6]. Drug addiction stigma hinders people from seeking and completing treatment interferes with healthcare practitioner's ability to give evidence-based therapies [7] and negatively impacts the mental and physical health of those who are stigmatized [1], [8].

The way, the public views opioid users may differ depending on the user's race, social standing, and gender as well as the person conducting the assessment. For instance, it has been observed that male opioid users are stigmatized more than female opioid users [6], whereas it was discovered that males, White people and people with lower incomes are stigmatized as opioid users less than females, non-White people and people with higher incomes [9]. The drug addict in treatment is affected by stigma in numerous kinds. Low self-esteem and mild depression are the effects. Future research could include people from a wider socioeconomic range and data from additional tertiary care hospitals and mental health facilities could be used to study a larger population. The mental health of female family members of drug addicts was found to be significantly predicted by perceived stigma and caregiver stress [10].

The current study is assimilating and extending the knowledge as well as insights that are taken from earlier research. Several studies are carried out on different variables with different gaps and their relations to each other and the selection of different samples of age and groups. The rationale for the study is basically to assess the impact of behavioral factors on relapse among drug addicts moderating the role of psychological factors.

## Method

### Research Design

This study examined the influence of behavioral factors, which moderate the influence of psychological factors, on relapse among drug addicts. A questionnaire was used as the survey tool for this investigation. The best tool for gathering information from the sample is a questionnaire.

### Sample

The cross-sectional survey research design was used. The sample comprised two hundred drug addicts (N = 200) age ranges from 18 to onward, taken from different addiction centers in Punjab. The data was collected by using purposive sampling techniques.

### Instruments

The General Health Questionnaire [11], Patient Depression Questionnaire PHQ-9 [12], Drug Abuse Screening Test-10 [13], Perceived Stigma of Substance Abuse Scale [14], Adaptability, Partnership, Growth, Affection, and Resolve [15], Alcohol Use Disorder Identification Test [16], and The Advance Warning of Relapse Questionnaire [17].

**Procedure**

In the present study, the ethical approval would be taken from the ethics committee of the Department of Psychology The University of the Lahore Sargodha Campus. After mandatory information and a brief introduction, the respondents filled out their informed consent form. To establish credibility, the participants were informed of the study's nature, goals and purpose. They were informed that they might withdraw their information at any time including after the scale had been completed. Informed consent was gained from the respondents before during and after the form was completed to boost their confidence and build interest in the study at hand. This was done after providing a brief introduction and any relevant instructions. The participants need to spend between 25 and 30 minutes filling out the scale, but the study was not bounded. They were encouraged by the participants' general responses and they also expressed their curiosity. The researcher scanned the scale once it has been fully completed to advert any blank or double-rated questions. The participants received thanks from the researcher for their time and willingness to take part in the study.

**Results**

The SPSS 26 version was used to analyze the data for the current investigation. To guarantee the scales utilized in the study had a strong psychometric foundation, participant percentages and demographic details were reviewed and alpha reliabilities were calculated. All the factors were incorporated into a correlation matrix to get a better understanding of the relationship structure. The testing of the hypothesis involved regression analysis. To compare these scales based on demographic factors. An independent sample t-test was carried out. Following analysis with SPSS-23, the following results were discovered.

**Table 1.** Moderation of PSAS between GHQ and AWARE.

Model	B	$\beta$	SE	Model	B	$\beta$	SE
Constant	80.93***		1.1	Constant	79.43***		1.04
GHQ	-1.4	-.08	1.4	GHQ	6.57***	.39***	11.04
PSAS	-6.0***	-.36***	1.1	PSAS	-7.98***	-.47***	1.03
GHQ × PSAS	3.1	.22	1.2	PHQ × PSAS	5.74	.28	1.21
R <sup>2</sup>	.19			R <sup>2</sup>	.36		
$\Delta R^2$	.02			$\Delta R^2$	.07		

*Note.* GHQ = General Health Questionnaire, PHQ = Physical Health Questionnaire, DAST = Drug Abuse Screening test, APGAR = Adaptability, Partnership, Growth, Affection and Resolve Scale, PSAS = Perceived Stigma of Substance Abuse Scale, AUDIT = Alcohol Use Disorder Identification Test, AWARE = Advance Warning of Relapse.

\*\*\* $p < .001$

Results indicated that GHQ negatively predicts AWARE ( $\beta = -.08, p < .001$ ) and APGAR ( $\beta = -.36, p < .001$ ) negatively indicates AWARE, and GHQ × APGAR positively predicts Aware ( $\beta = .22, p < .01$ ). The  $\Delta R^2$  value of .02 indicated 2% change in the variance of the model with  $\Delta F(1, 188) = 6.722, p < .001$ . Findings show that PSAS moderates the relation between GHQ and AWARE. Results indicated that PHQ negatively predicts AWARE ( $\beta = .39, p < .001$ ) and APGAR ( $\beta = -.47, p < .001$ ) negatively predicts Aware. GHQ × APGAR positively predicts Aware ( $\beta = .28, p < .01$ ). The  $\Delta R^2$  value of .07 indicated a 7% change in the variance of the model with  $\Delta F(1, 188) = 22.45, p < .001$ . Results indicated that PSAS moderates the relation between PHQ and AWARE.

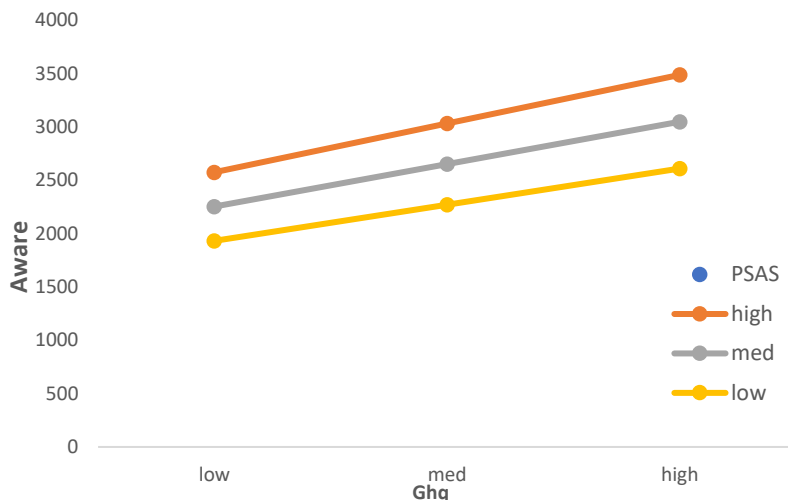


Figure 1. Mod-Graph with Moderating effect of PSAS between GHQ and AWARE.

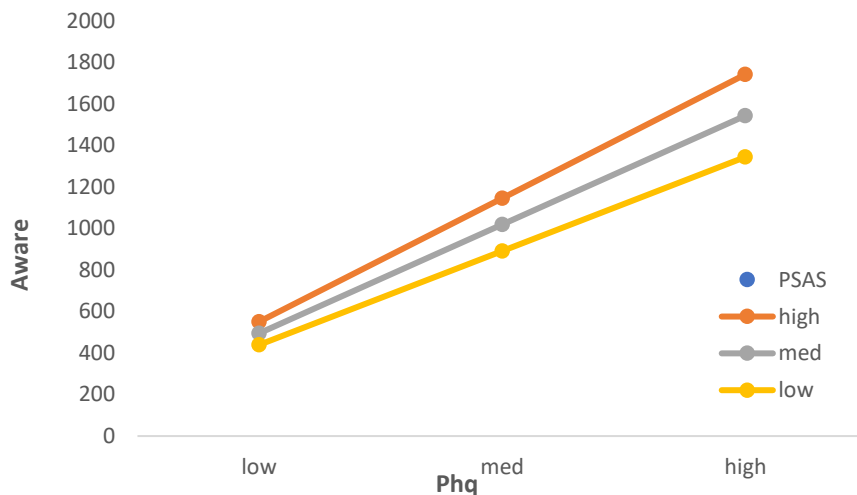


Figure 2. Mod-Graph with Moderating effect of PSAS between PHQ and AWARE.

Table 3. Moderation of PSAS between DAST and AWARE.

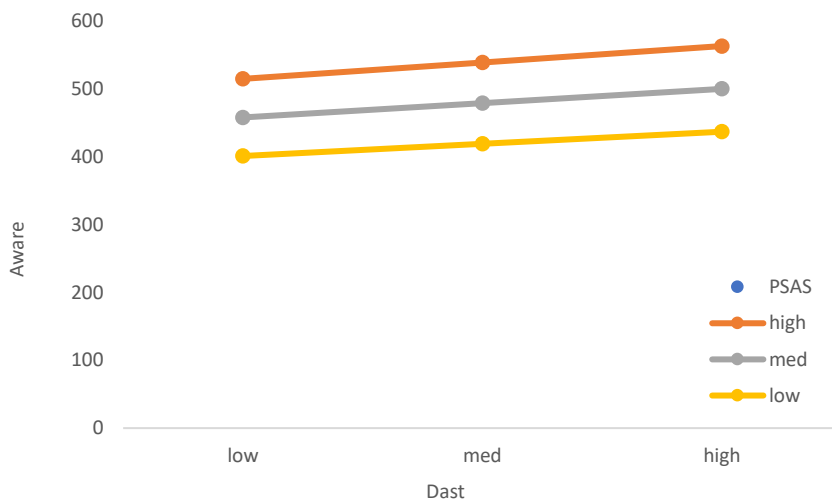
Model	B	$\beta$	SE	Model	B	$\beta$	SE
Constant	81.45***		1.14	Constant	81.34***		.94
DAST	-.89	-.05	1.57	DAST	-1.47**	-.09**	.94
PSAS	-5.6***	-.38***	1.14	PSAS	-4.23***	-.25***	.95
AUDIT × PSAS	1.30	.08	1.53	DAST × PSAS	11.49	.52	1.26
PSAS							
R <sup>2</sup>	.12			R <sup>2</sup>	.39		
$\Delta R^2$	.00			$\Delta R^2$	.27		

Note. GHQ = General Health Questionnaire, PHQ = Physical Health Questionnaire, DAST = Drug Abuse Screening test, APGAR = Adaptability, Partnership, Growth, Affection and Resolve Scale, PSAS = Perceived Stigma of Substance Abuse Scale, AUDIT = Alcohol Use Disorder Identification Test, AWARE = Advance Warning of Relapse.

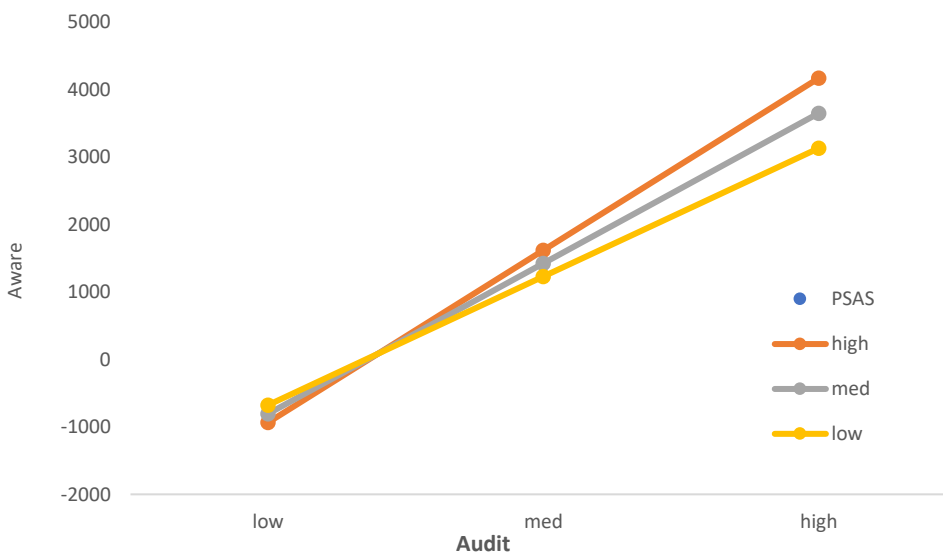
\*\*\* $p < .001$

Results indicated that DAST negatively predicts AWARE ( $\beta = -.05, p < .001$ ) and PSAS ( $\beta = -.38, p < .001$ ) negatively predicts Aware. DAST × PSAS positively predicted Aware ( $\beta = .08,$

$p < .01$ ). The  $\Delta R^2$  value of .00 indicated a 0% change in the variance of the model with  $\Delta F(1, 188) = .71, p < .001$ . Findings show that PSAS moderates the relation between DAST and AWARE. Results indicated that AUDIT negatively predicts AWARE ( $\beta = -.09, p < .001$ ) and PSAS ( $\beta = -.25, p < .001$ ) negatively predicts Aware, and  $AUDIT \times AWARE$  positively predicts Aware ( $\beta = .52, p < .01$ ). The  $\Delta R^2$  value of .27 indicated 27% change in the variance of the model with  $\Delta F(1, 188) = 83.26, p < .001$ . Results indicated that AUDIT moderates the relation between PSAS and AWARE.



**Figure 3.** Mod-Graph with Moderating effect of PSAS between DAST and AWARE.



**Figure 4.** Mod-Graph with Moderating effect of PSAS between AUDIT and AWARE.

**Discussion**

Moderation analysis revealed that perceived stigma significantly moderated the relationship between drug and alcohol abuse severity and warning of relapse. People who have been diagnosed with both substance use disorder and schizophrenia spectrum disorder have a direct and indirect link between self-stigma and relapse deterioration, which is consistent with earlier studies linking self-stigma to poorer self-esteem in people with either illness alone [18], [19]. Improved self-esteem has been demonstrated to be a significant benefit of stigma reduction, whereas lower self-esteem has been connected to non-compliance with treatment

and relapses, delaying recovery. When faced with a challenge or danger, the brain's information processing circuits that are responsible for interpreting both internal and external environmental stimuli as well as cognitive and emotional inputs, such as the primary sensory projections and sensory association cortices, are active. Individuals are motivated to adopt or minimize stress by coping methods when faced with risk, threat, or a problematic situation [20].

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