

Psychological Determinants of Relapse Prevention

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The present research aimed to study self-reflection, self-importance of moral identity, self-forgiveness, and personal growth initiative as the psychological determinants of relapse prevention among the drug addicts. Study instruments include Self-Reflection and Insight Scale (Grant, Franklin, & Langford, 2002), Self-Importance of Moral Identity Measure (Aquino & Reed, 2002), Two-factor Self-forgiveness Scale (Griffin et al., 2015), Personal Growth Initiative Scale II-Urdu (PGIS-II) (Zaman, 2018), and Advance Warning of Relapse (AWARE) Scale (Miller & Harris, 2000). The whole study is divided into two phases. Phase I underlies translation and validation of the research instrument into Urdu language; such that, translated versions possess significant reliability and possess good construct validity. Phase II studies the relationship between self-reflection, self-importance of moral identity, self-forgiveness, personal growth initiative, and relapse prevention among 240 drug addicts ($M = 29.3$, $SD = 8.2$). Sample was approached at different rehabilitation centers of Islamabad and Rawalpindi. Results indicated that all translated instruments are valid for the sample. All the study variables are found to explain about 14% variance ($\Delta R^2 = .14$) in warning of relapse such that personal growth initiative is the most significant predictor. The values of total, direct, and indirect effects demonstrate existence of mediation; such that, self-importance of moral identity, self-forgiveness, and personal growth initiative act as serial mediators in order as mentioned for the relationship of self-reflection and warning of relapse.

Keywords. Psychological determinants, self-reflection, self-importance of moral identity, personal growth initiative, relapse prevention, drug addicts

Drug addiction is a psychological and physical inability to avoid drug consumption despite of its harmful consequences (Auriacombe, Serre, Denis, & Fatseas, 2018; Felman, 2018). Drug addiction is

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becoming a menace in Pakistan with approximately 6.5 million population of Pakistan are drug addicts (United Nations Office on Drugs and Crime [UNODC], 2013). The biggest threat associated with addiction is the return to previous state of drug abuse after treatment; that is termed as relapse (Milhorn, 2018) a high risk of which remains even for many years after the treatment (Marlatt & Donovan, 2005; National Institute on Drug Abuse [NIDA], 2016). Researches indicate that approximately 70% of addicts in Pakistan has history of relapse (Masood & Sahar, 2014). Prevention from relapse is thus of due importance, which is signified by the early identification of warning signs of the relapse in order to address them effectively thus decreasing the chances of relapse (Brandon, Vidrine, & Litvin, 2007).

Literature demonstrated that biological factors like neuroadaptations play significant role in relapse due to brain changes (Auriacombe et al., 2016; Sayette, 2016). Social factor like the support from society (Nikmanesh, Baluchi, & Motlagh, 2017) and economic factors like employment or socioeconomic status of the person also effect occurrence of relapse (Bona, Blonquist, Neuberg, Silverman, & Wolfe, 2016). Psychological factors, however, are the one that have the most significant effect on individual (Nilsson & Kristenson, 2010). Researchers found many psychological factors to be associated with relapse; for example, person's own choice (Svanberg, 2018); low self-efficacy (Azmi, Hussin, Ishak, & Daud, 2018); emotional instability (Bukhtawer, Muhammad, & Iqbal, 2014); and negative emotions including: frustration, anger, resentment, and sadness (Rahman, Rahaman, Hamadani, Mustafa, & Shariful Islam, 2016). These factors are found by researches to decrease by human ability of self-regulation (Ames, Lee, & Wazlawek, 2017) that forms the basis for conscious reflection upon one's thoughts, feelings, and actions (Bandura, 1999; 2010). Literature provide evidence of preventing role played by self-reflection against relapse (Goldstein & Volkow, 2011; Stephenson & Zygouris, 2007). The literature also revealed that self-reflection forms the major component of self-importance of moral identity (Aquino & Reed, 2002; Lapsley, 2015), self-forgiveness (Griffin et al., 2015), and personal growth initiative (Herbert-Smith, 2018; Robitschek, 2003; Rosset & Rottman, 2014); which are evident of reducing relapse condition (Frank & Nagel, 2017; Hartney, 2019; Ianni, Hart, Hibbard, & Carrol, 2010; Scherer, 2010). These variables are thus conceptualized to play the mediating role between self-reflection and relapse prevention.

Self-reflection here is defined as the assessment and evaluation of one's thought, feelings, and behavior. It is comprised of three main components: Engagement in self-reflection which is the process of

being actively adhered to the process of the self-reflection, need of self-reflection which the necessity of being involved in the process of self-reflection, insight which is the clear and complete understanding about one's thoughts, feelings and behavior (Grant et al., 2002). Self-importance of Moral Identity is termed as the private and public facet of how important moral traits are to one's moral identity. It is comprised of two main components; the private one, internalization that is degree by which the moral traits forms part of one's self-concept and the public one, symbolization that is degree by which the moral traits are reflected by a person's actions (Aquino & Reed, 2002). Self-forgiveness is forgiving oneself following a transgression by affirming to the offended value; that is decisional affirmation and restoring positive self-regard; that is, emotional restoration (Griffin et al., 2015). Personal growth initiative is defined as person's active and intentional involvement in changing and developing as a person which is characterized by readiness to change, planfulness, using resources, and intentional behavior (Robitscheck et al., 2012). Relapse Prevention is however termed as the prevention of relapse state by early diagnosis of the warning signs being associated with relapse condition (Miller & Harris, 2000).

Researches of the past demonstrate the relationship between the study variables; such that, self-reflection exhibits a positive relationship with self-importance of moral identity (Aquino & Reed, 2002), self-forgiveness (Griffin et al., 2015), and personal growth initiative (Herbert-Smith, 2018). Self-importance of moral identity maintains positive relationship with self-forgiveness (Carpenter, Carlisle, & Tsang, 2014) and personal growth initiative (Aquino & Reed, 2002). Self-forgiveness has a positive relationship with personal growth initiative (Hill & Allemand, 2010). The literature also provides the relationship of these variables with relapse prevention among drug addicts. Self-reflection (Stephenson & Zygouris, 2007) and Self-forgiveness (Worthington, Scherer, & Crooke, 2006) increase person's engagement in treatment process which helps in recovery and decrease relapse's chances. Self-reflection was also found to be associated with commitment to re-engage with life after the treatment which reduces the chances of relapse (Murray, 2018) and the lack of self-reflection lead to poor behavioral self-regulation resulting in persistence of addictive behavior despite of its no favorable outcomes (Goldstein & Volkow, 2011). Self-forgiveness is associated with improvement in the level of self-efficacy which is related to drinking refusal and hence preventing relapse (Scherer, 2010) and provides a protective emotion-focused coping strategy among individuals prone to shame thus help recovering from addiction (Ianni et al., 2010). Literature also suggest

that self-forgiveness help to reduce the negative feelings possessed by addicts in relation to some wrongdoing which could lead towards a better and sustaining recovery (McGaffin, Lyons, & Deane, 2013) whereas lack of self-forgiveness prevents recovery and fosters relapse (Webb, Robinson, Brower, & Zucker, 2006). Readiness to change the addictive behavior, being one of the basic components of Personal Growth Initiative, is found to be associated with the rate of relapse after treatment (Hartney, 2019; Hendershot, Witkiewitz, George, & Marlatt, 2011).

The evidence of relationship between study variables also exists in Pakistani researches; demonstrating that individual's subjective perception about his or her morality is associated with the forgiveness (Naeem & Batool, 2017). The Pakistani researches extensively studied the demographics that are associated with relapse condition. Study by Jabeen et al. (2017) suggested that early age of addiction onset, low literacy rate, and occupation type are some demographics that could contribute to addiction. Research also proposed that average age of initiation of drug use was found to be 18 years that has more prevalence among the lower and lower middle classes of the society (Malik et al., 2012). Aslam, Kamal, and Ahmed (2011) also conducted a study to explore demographic profile and etiological factors related to drug addiction. The results showed that low education, unemployment, and economic frustration contributed as the factors behind expanding use of drugs in Pakistan.

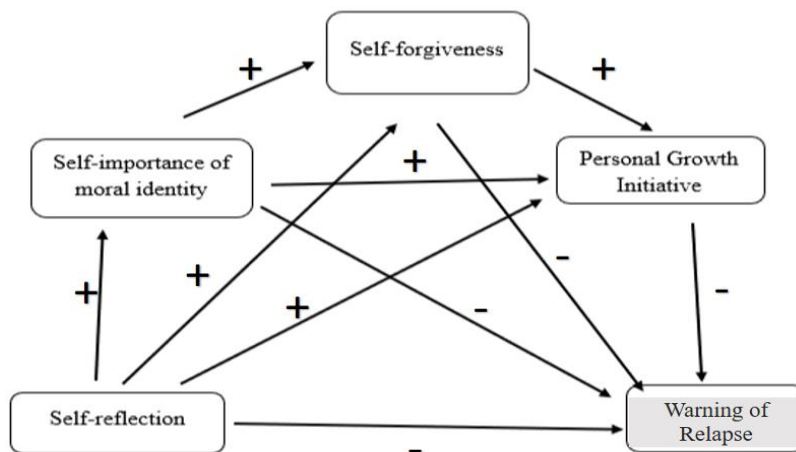


Figure 1. Conceptual model showing the relationship of self-reflection, self-importance of moral identity, self-forgiveness, personal growth initiative, and warning signs of relapse.

The review of Pakistani literature however demonstrated that there exists a literature gap regarding the relationship of our study variables with relapse prevention among drug addicts which is evident by the literature support as discussed earlier and the theoretical support from Bandura's social cognitive theory of self-regulation (Bandura, 1991). According to which, human behavior is regulated by self-observation, judgments, and self-response. The individual keenly observes the situation or behavior concerned, make judgment of it, and initiate a response on it. This regulation of behavior is governed by self-influence that is associated with self-reflection and by social or external influence. These two components are also associated with sanctions imposed as consequence of any transgression based on how central the transgressed moral value is to the person (Aquino & Reed, 2002; Griffin et al., 2015). The extension of this theory with respect to substance use suggested that self-regulation is involved in enhancing one's self-efficacy regarding addiction which leads to personal change resulting in relapse prevention (Bandura, 1999). Relapse prevention for the current research was assessed in terms of warning signs of relapse; such that, greater the warning of relapse lower will be the relapse prevention. The conceptual framework of the research is devised as follows:

Objectives

1. To see the relationship between self-reflection, self-importance of moral identity, self-forgiveness, personal growth initiative, and relapse prevention among drug addicts.
2. To investigate mediating role of self-importance of moral identity, self-forgiveness, and personal growth initiative on relationship between self-reflection and relapse prevention among drug addicts.

Hypotheses

1. Self-reflection, self-importance of moral identity, self-forgiveness, and personal growth initiative are negative predictors of warning of relapse among drug addicts.
2. Self-importance of moral identity, self-forgiveness, and personal growth initiative as mediators for self-reflection in predicting warning of relapse among drug addicts.

Method

Phase I: Translation and Validation of Research Instruments

Objectives. The main objective of this phase is to translate the research instruments into Urdu and to establish validation of translated versions.

Sample. 150 drug addicts (all men) with age ranging from 17 to 56 years old ($M = 29.45$; $SD = 8.83$) were taken from rehabilitation centers of Islamabad.

Procedure. Translation of the research instruments including; Self-reflection and Insight Scale (Grant et al., 2002), Self-importance of Moral Identity Measure (Aquino & Reed, 2002), Two-factor self-forgiveness Scale (Griffin, 2016), and Advance Warning of Relapse (AWARE) Questionnaire (Miller & Harris, 2000) was carried out by using Forward-Back Translation approach (Brislin, 1976). The validation of translated versions was carried out on the sample approached at drug rehabilitation centers in the locality of Islamabad and Rawalpindi. The sample was guided about the study's aim and anonymity was ensured. The research questionnaires were administered individually so as to address the concerns of participants in a better way.

Results. The data obtained from sample was used to establish construct validity through Confirmatory Factor Analysis (CFA). The findings of the CFA suggest that Urdu versions for Self-importance of Moral Identity Measure and Two factor Self-forgiveness Scale possess goodness of fit for factor structures of original scale on our data. Self-reflection and Insight Scale-Urdu and Advance Warning of Relapse Questionnaire-Urdu however observed a change in factor structure to achieve goodness of fit; such that Self-reflection and Insight Scale-Urdu retained 11 out of 20 items (i.e., items 1, 2, 4, 8, 9, 11, 13, 14, and 17 were removed) and Advance Warning of Relapse Questionnaire-Urdu retained 24 out of 28 items (i.e., items 8, 14, 20, and 26 were removed).

Phase II: Hypotheses Testing

Sample. The sample comprised of 240 drug addicts ($M = 29.3$, $SD = 8.2$) which were under treatment at the rehabilitation centers in the vicinity of Islamabad and Rawalpindi.

Instruments

Self-Reflection and Insight Scale-Urdu. It is translated version of Self-reflection and Insight Scale was developed by Grant et al. (2002). The scale is comprised of 11 items under three subscales;

engagement in self-reflection (i.e., active involvement in self-reflection), need for self-reflection (i.e., necessity of self-reflection), and insight (i.e., clear understanding of one's thoughts, feelings, and behavior). In the present study reliability coefficients for subscales are .64, .75, and .69 respectively. It is 6-point likert-type scale with total score ranging from 11-66. Score ranges for subscales are 3-18, 5-30, and 3-18 respectively. The high score on the subscales indicate higher active involvement, greater necessity, and clear understanding of one's thoughts, feelings, and behavior respectively.

Self-Importance of Moral Identity Measure-Urdu. It is translated version of Self-importance of Moral Identity Measure (Aquino & Reed, 2002). This measure comprised of 10 items under two subscales; internalization (i.e., centrality of one's moral values) and symbolization (i.e., display of moral value by actions) with 5 items each. It is a 5-point likert-type scale with total score ranging from 10-50. Score range for subscales is 5-25 each. The reliability coefficients for the subscales in current study are .66 and .71 respectively. The high score on subscales indicate greater centrality of one's moral values and display of those values through one's actions respectively.

Two Factor Self-Forgiveness Scale-Urdu. It is translated version of Two Factor Self-forgiveness Scale (Griffin et al., 2015). The scale has 10 items. It comprised of; decisional affirmation (i.e., decision to affirm with values) and emotional restoration (i.e., restoring the emotional state) with 5 items each. It is a 5-point likert-type scale with total score range of 10-50. The score range for subscales is 5-25 each. In present study reliability coefficients for the subscales are .69 and .80 respectively. The high score on subscales indicate affirmation to offended value and restoration of positive self-regard respectively.

Personal Growth Initiative Scale II-Urdu. This scale is translated and adapted version (Zaman, 2018) of Personal Growth Initiative Scale-II (Robitschek et al., 2012). It is comprised of 16 items under four subscales: Readiness to Change (i.e., preparedness to change) with 4 items, Planfulness (i.e., effective planning) with 5 items, Using Resources (i.e., effective usage of available resources) with 3 items, and Intentional Behavior (i.e., conscious behavior) with 4 items. The scale is a 6-point likert-type scale with total score range of 0-80. Score ranges for subscales are 0-20, 0-25, 0-15, and 0-20 respectively. The reliability coefficients in present study for the subscales are .85, .87, .72, and .82 respectively. The high score on subscales indicate eagerness to bring positive change, effective planning for personal growth, recognition of resources, and conscious pursuit of personal growth respectively.

Advance Warning of Relapse Questionnaire-Urdu. It is the translated version of Advance Warning of Relapse Questionnaire (Miller & Harris, 2000). It is a 24-item likert-type scale which measures the warning signs that are associated with the condition of relapse. The total score range for questionnaire is 24-168. The reliability coefficient for the scale in present study is .91. The high score on scale indicates high warning signs of relapse thus lower relapse prevention.

Table 1

Demographic Characteristics of Sample (N=240)

Variables		Frequency	Percentage	Missing
Age (in years)	16-25	92	39	
	26-35	100	42	
	36-45	36	15	2
	46-55	7	3	
	56-65	3	1	
Education	Illiterate	38	17	
	Matric	119	54	21
	Graduation	41	24	
	Post-Graduation	11	5	
Family System	Joint	131	58	14
	Nuclear	95	42	
Marital Status	Married	100	44	
	Unmarried	128	55	10
	Divorced/Widowed	2	1	
Employment Status	Employed	78	70.3	37
	Unemployed	21	18.9	

Procedure. The data was gathered by acquiring permission from the drug rehabilitation centers in the locality of Islamabad and Rawalpindi. They were briefed about the research objectives and were also ensured about the anonymity of the participants. The sample was approached on the day designated by the administrative staff and were briefed about the purpose of the study. The informed consent was also taken, and questionnaire was administered. The confidentiality as well as anonymity of the responses were ensured to all the participants.

Results

The correlation and regression estimates were made for determining the relationship between study variables. The results obtained from correlation analysis are as follows:

Table 2

Correlation Estimates for Self-Reflection, Self-Importance of Moral Identity, Self-Forgiveness, Personal Growth Initiative, and Warning of Relapse (N=240)

	M	SD	α	Range		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				Actual	Potential																
1	47.1	9.1	.87	18-66	11-66	-	.90**	.93**	.83**	.55**	.46**	.36**	.30**	.36**	.14	.30**	.27**	.27**	.19*	.30**	-.39**
2	12.4	2.7	.64	5-18	3-18		-	.77**	.67**	.42**	.35**	.28**	.27**	.28**	.16*	.29**	.26**	.28**	.20*	.25**	-.38**
3	21.6	4.6	.75	7-30	5-30			-	.61**	.52**	.47**	.30**	.32**	.40**	.13	.26**	.26**	.23**	.13	.27**	-.30**
4	13.1	2.9	.69	4-18	3-18				-	.50**	.36**	.39**	.19*	.25**	.06	.25**	.20*	.22**	.20*	.27**	-.39**
5	36.3	5.7	.70	16-49	10-50					-	.74**	.75**	.26**	.35**	.09	.24**	.17*	.19	.17*	.31**	-.29**
6	19.2	3.6	.66	9-25	5-25						-	.11	.23**	.38**	.03	.18**	.13	.13	.12	.25**	-.26**
7	17.2	3.8	.71	7-25	5-25							-	.16	.15	.11	.18*	.12	.16	.14	.20*	-.18*
8	36.6	6.9	.79	14-50	10-50								-	.75**	.84**	.22**	.20**	.23**	.07	.24**	-.16
9	18.6	3.9	.69	6-25	5-25									-	.27**	.13	.14	.09	.02	.18*	-.06
10	17.9	4.3	.80	6-25	5-25										-	.22**	.18*	.26*	.09	.20*	-.18*
11	50.2	14.8	.94	14-80	0-80											-	.90**	.93**	.79**	.86**	-.31**
12	12.5	4.1	.85	3-20	0-20												-	.87**	.56**	.66**	-.27**
13	15.4	5.2	.87	3-25	0-25													-	.60**	.67**	-.31**
14	9.2	3.2	.72	1-15	0-15														-	.70**	-.22**
15	13.3	3.9	.82	3-20	0-20															-	-.25**
16	79.9	20.7	.90	26-136	24-168																-

Note. Correlation estimates for total scale is demonstrated in boldface, 1= self-reflection and insight, 2 = engagement in self-reflection, 3 = need for self-reflection, 4 = insight, 5 = self-importance of moral identity, 6 = internalization, 7 = symbolization, 8 = self-forgiveness, 9 = decisional affirmation, 10 = emotional restoration, 11= personal growth initiative, 12 = readiness for change, 13 = planfulness, 14 = using resources, 15 = intentional behavior, 16 = warning of relapse.

* $p < .05$; ** $p < .01$.

The correlation estimates in Table 2 demonstrate that all the study variables are significantly related to one another; such that, self-reflection, self-importance of moral identity, self-forgiveness, and personal growth initiative have a significantly negative correlation with warning of relapse. The regression analysis was conducted to determine the prediction of warning of relapse by study variables. The results are as follows:

Table 3
Multiple Regression Analysis for Effect of Demographic and Study Variables on Warning of Relapse Among Drug Addicts (N=240)

Variables	Warning of Relapse			
	Model 1	Model 2	95% CI	
	β	β	LL	UL
Constant				
Age	.12	.11	-.59	5.71
Education	.01	-.01	-1.77	1.43
Self-reflection		-.13	-.64	.04
Self-importance of Moral Identity		-.17*	-1.19	-.05
Self-forgiveness		.06	-.25	.62
Personal Growth Initiative		-.21**	-.49	-.09
R^2	.02	.15		
F	1.64	6.26		
ΔR^2		.14		
ΔF		8.46**		

* $p < .05$; ** $p < .01$.

Table 3 demonstrated that the demographic variables (i.e., age and education) alone account for 2% of variance in the warning of relapse among drug addicts. Model 2 indicate the effect caused by study variables; self-reflection, self-importance of moral identity, self-forgiveness, and personal growth initiative such that the effect caused by demographic variables is controlled. The results show that the study variables together account for 14% of the total variance in warning of relapse among drug addicts with self-importance of moral identity ($p < .05$) and personal growth initiative being the significant predictors ($p < .01$). The beta values (standardized effect) for all the variables possess negative sign which indicate that the variables are negatively predicting the warning of relapse and thus positively predicting the relapse prevention. This finding supports the hypothesis that self-reflection, self-importance of moral identity, self-forgiveness, and personal growth initiative are negative predictors of warning of relapse among drug addicts (H1). The mediation analyses for the variables was conducted by using 1000 bootstrap resamples (Preacher

& Hayes, 2008) to determine the mediated relationship of study variables in predicting warning of relapse through self-reflection as proposed by the conceptual model (see Figure 1). The results of analyses are shown below:

Table 4

Mediating Role of Self-Importance of Moral Identity, Self-Forgiveness, and Personal Growth Initiative between Self-Reflection and Warning of Relapse Among Drug Addicts (N=240)

Indirect Effects	β	SE	z-score	p	95% CI		R ²
					LL	UL	
Total	-.12	.05	-	.00	-.22	-.04	.08***
Self-importance of Moral Identity	-.09	.04	-2.36	.00	-.17	-.01	.10***
Self-forgiveness	-.02	.02	-1.06	.01	-.07	.02	.08**
Personal Growth Initiative	-.07	.03	-2.85	.03	-.13	-.03	.12*

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 4 shows the indirect effects of the mediators for the predicting warning of relapse. Results demonstrate that all three mediators; self-importance of moral identity (M₁), self-forgiveness (M₂), and personal growth initiative (M₃) have significant effect and thus mediate between the predictor that is; self-reflection (X) and outcome that is; warning of relapse (Y) which for current study is interpreted in terms of the relapse prevention among the drug addicts such that higher the warning of relapse lower the respective relapse prevention.



Figure 2. Serial mediating role of self-importance of moral identity, self-forgiveness, and personal growth initiative on self-reflection and warning of relapse among drug addicts.

The coefficient of direct effect ($B = -.35, p < .05$) is less than that of total effect ($B = -.63, p < .05$) which also demonstrated that the three serial mediators are explaining the relationship between the predictor and outcome. This finding provide evidence in support of our hypothesis self-importance of moral identity, self-forgiveness, and personal growth initiative as mediators for self-reflection in predicting warning of relapse among drug addicts (H2). This mediating relationship along with the respective coefficients of effects are illustrated by the figure given as follows:

Discussion

Relapse prevention is a topic of significance importance and there exists a dire need to study the variable among drug addicts of Pakistan as per account of increasing rate of relapse among the drug addicts in our country (Masood & Sahar, 2014). Psychological variables maintain a significant role in this regard and are also studied in past (Azmi et al., 2018; Bukhtawer et al., 2014; Rahman et al., 2016; Svanberg, 2018). The present research aimed to study the role of self-reflection, self-importance of moral identity, self-forgiveness, and personal growth initiative as the psychological determinants of relapse prevention among drug addicts. The purpose of the research was accomplished by translation and validation of research instruments in Phase I and then these translated and validated instruments were administered on the drug addicts to determine the relationship of self-reflection, self-importance of moral identity, self-forgiveness, and personal growth initiative as the psychological determinants of relapse prevention in Phase II.

In Phase I, the research instruments were translated to address the sociocultural variations and addressing the language barrier that might exist between the culture in which the measure or instrument is originally developed and the one in which it has to be administered (Bassnett, 2013; Huang & Wong, 2014). The translated instruments were then validated by using Confirmatory Factor Analysis (CFA) to identify the variability (if any) between empirical and predicted factor structure (Prudon, 2015) and help testing the relationship between the observed variable and its underlying latent variables of the construct of researcher's interest (Suhr, 2006).

The analysis demonstrated that the factor structure of Self-importance of Moral Identity Measure-Urdu and Two factor Self-forgiveness Scale remained same as that of original scale. Self-reflection and Insight Scale-Urdu observed a change in factor structure; such that, items 1, 2, 4, 8, 9, 11, 13, 14, and 17 were

removed because of possessing poor factor loadings. All these items are negatively worded and hence might be contributing towards the “method effect”, which means that the participants had not attentively addressed the item which could be because of the presence of self-consciousness, approach-avoidance conflict, and also because of poor comprehension due to low metacognitive ability (DiStefano & Motl, 2006; Lance, Dawson, Birkelback, & Hoffman, 2010) which is evident in the drug addicts (Spruyt et al., 2013; Wasmuth et al., 2015). Advance Warning of Relapse Questionnaire-Urdu also observed the variation in factor structure; such that, items 1, 8, 14, and 26 were removed. These items are negatively assessing the relapse, so the participants might have attempted the items in a socially desirable manner. Literature also supports the fact that drug addicts have a strong desire to maintain socially desirable character and thus exhibit response editing, which is under or over response rate due to the stigmatization being associated with the behavior of addiction (Krumpal, 2013).

The relationship between the study variables was determined by finding correlation and regression estimates. The findings from correlation (see Table 1) suggest that the study variables possess a significant negative correlation with warning of relapse. The regression analysis (see Table 2) demonstrated that the study variables together explain about 12% of the variance in warning of relapse. These findings are also supported by the previous literature (Goldstein & Volkow, 2011; Hartney, 2019; Hendershot et al., 2011; Ianni et al., 2010; McGaffin et al., 2013; Murray, 2018; Scherer, 2010; Webb et al., 2006; Worthington et al., 2006).

The mediating role of self-importance of moral identity, self-forgiveness, and personal growth initiative was also study between self-reflection and warning of relapse. The results (see Table 3) demonstrates that all these study variables mediate the relationship between self-reflection (predictor) and warning of relapse (outcome) both in the independent simple mediation analysis and in terms of serial mediation analyses (Model 4 of PROCESS Macro). The model testing was also conducted by using AMOS 22, which indicate that the model of our research possesses goodness of fit. The theoretical support from Social Cognitive Theory of Human Agency (Bandura, 1999) also provide evidence for the model of the research.

Conclusion

The present research can be thus concluded as providing the support for the relationship of self-reflection, self-importance of moral

identity, self-forgiveness, and personal growth initiative in improving the relapse prevention among drug addicts, which for the current study is interpreted in terms of warning of relapses; such that, higher the warning of relapse lower will be the prevention of relapse.

Limitation and Suggestions

1. The study lacks women sample and comprised only of male drug addicts, variable sample using random sampling could help in generalization as literature suggest gender differences in course of relapse (Walitzer & Dearing, 2006).
2. The data collection is faced with difficulty because of likert-type scale. It is suggested thus to use forced response item type for studies in the future that involve clinical or special population.
3. The lifestyle and social circumstances (i.e., relationship, attachment, and social support)of the drug addicts were not considered in current study. It is thus suggested to study social factors in future researches.

Implications

The current research will add to the theoretical understanding of the relapse prevention from the psychological perspective. The translated versions of the instruments can be used for further research purposes after the validation on respective sample of interest.

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