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Development and Validation of Relapse Risk Scale for Substance Dependents in Pakistan

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ABSTRACT

Relapse Risk Scale (RRS) was developed based on the cognitive and behavioural model Proposed by Marlatt and Gordon (1985) essentially provided the development of RRS. The factorial validity and reliability of RRS was determined on a sample of 200 Substance dependents (169 men and 31 women). The data cumulated on 65-item RRS were subjected to principal components analysis to assess the 'dimensionality of RRS. The resulting eigen values provided support to a four-factor solution, accounting for 37.1% of total variance. A total of 44 items loaded at .40 and above with coefficient alpha of .95. The construct validity of RRS was established by finding out the relationship of RRS with an established measure '*relapse risk*, namely Stimulant Relapse Risk Scale (SRRS; Ogai et al., 2007). This study was carried out on a sample of 100 stimulant abuse (71 men and 29 women), which yielded a high correlation coefficient of .67, p < .000 between the two measures. Validity study of RRS, the relationship of RRS with Urdu translated version of General Self Efficacy Scale (GSES; Uzma Tabassum, Ghazala Rehman, Ralf Schwarzer& Matthias Jerusalem, 2003) was examined. This study was carried out on a sample of 100 substance dependents (69 men and 31 women), has anticipated, results indicated that relapse risk and self-efficacy were significantly related with each other (r = .41, p < .000

KEY WORDS: Relapse, Substance Dependent, Self-Efficacy, Substance Dependence

1. INTRODUCTION

Relapse could be a dire task in the treatment of all behavior disorders (Marlatt & Witkiewitz, 2004). Many researchers delineate relapse as advanced, vibrant as well as capricious behavior (Donovan, 1996; Marlatt, 1996; Buhringer, 2000). While, in step with Mahmood (1996), substance relapse implies that, usage; intake or misuse of psychedelic when one had received substance dependence treatment and rehabilitation. Wikler (1973) proposed that relapse is the commencement of substance using behavior during periods of self-inflicted or forced abstinence in humans.

Recent analysis has reveal that a short amount of use after treatment does not necessarily indicate vital use or serious relapse, and a shift to less serious drug use patterns is also viewed as indicators of improvement or harm reduction instead of a real relapse (Marlatt, 1996). The dearth of clarity of the term "relapse" found in the literature makes it difficult to draw conclusions concerning how addiction researchers perceive relapse (Diclemente, Velicer, Rossi, & Prochaska, 1990).

Several studies have been conducted to identify the psychosocial factors of relapse, for instance, Rasmussen (2000) found that relapse could take place due to the access of added dilemma like to attending hardly on absolute issues like; stress, fragile or decreasing forecast, the despairing thinking that each one issues can't be resolved and immature actions. Relapse tends to get addicts additionally confused and over react so wing to the shortcoming to think plainly, powerless to control feelings and emotions, the problem to keep in mind things, incapable to regulate their feelings and is easily annoyed. As delineated within the cognitive-behavioural model of relapse (Marlatt, Bear & Quigley, 1995), top level of self-efficacy square measure could predict better substance treatment outcome (Prue, Rychtarik, Rapp & King, 1992; Brown et al., 1995; Greenfield et al., 2000).

Craving, of the most factors of relapse, is sometimes conceive as a personal inclination state wherein individual experience associate with strong need to use of a substance (Drummond, 2001).Psychosocial stress receives primary or secondary concern in the larger part of addiction relapse models. Whereas theoretical and method unclearness resulted in inconsistent empirical support of the relationship between person all yintimate with stress and return to

intake drugs (e.g. Cooke, & Allan, 1985; Hall et al., 1990), conclude that personally threatening and chronic life stressors elevate risks for relapse (Brown et al., 1990).

There are few other scales are developed to measure relapse risk among substance dependence for instance, Stimulant Relapse Risk Scale (SRRS) Ogai, Haraguchi, Kondo, & Ikeda et al (2007) was supported the Marijuana craving questionnaire (MCQ) (Heishman et al., 2001) The aim of current research was to develop and validate the SRRS as an instrument of deterioration danger for stimulants. The discussion centered on a range of cognitive and behavioural indicators revealed by substance addicts that based on the clinical practice are establish to lead deterioration. 48 items were then created that shown a range of relapse risk, such as craving, emotional tissues, and denial. SRRS was administered to one hundred stimulant abusers in Japan and observed its inward structure, reliability and validity. The AWARE Questionnaire (Advance Warning of Relapse) was designed as a measure of the warning signs of relapse, as designated by Gorski (Gorski & Miller, 1982).

2. METHOD

Detail of the method is provided below.

2.1. Participants: The first version of the scale was applied on a sample of 200 inpatient with a history of substance dependence involving mainly (heroin, alcohol, cannabis, opium, injectable, tranquilizer and cocaine). Among them, 169 were men and 31 were women with age range from 18 to 60 years (M = 31.4, SD = 8.7).the second version of the scale was applied on a sample of100 substance dependents, 69 men and 31 women participated in this study. The data were collected from rehabilitation centers of Rawalpindi and Islamabad. Their ages ranged from 18 to 60 years with a (M=31.45, S.D. = 8.74). Of the total sample, 63.5% belonged to the Province of Punjab, 16.5% belonged to the KPK, 1 % Belong to Balochistan, 14.5% belong to Federal Territory, 2.5% Sindh and 2% Azad Jammu Kashmir.

2.12 Scale Description: The scale was designed to measure Relapse Risk among Substance Dependence. According to the warning signs of relapse, (Gorski & Miller, 1982;Marlatt and Gordon, 1985), we have chosen a series of relapse risk related to Substance Dependence; an item was designed for each relapse risk. In order to choose the final items, we involved 200 substance dependent in who had been victims of drug addiction in the past. The final form of the scale contains 44 items with a range of options from 1 to 5, where 1 = I fully agree and 5 = I strongly disagree. The scale is structured according to four dimensions: (1). Positive Expectancies and Compulsivity to use drugs, containing 21 items:7,13,14,17,20,21,25,26,30,31,32,33,34,35,36,37,39,41,42,43,44; (2). Abstinence Violation Effect, containing 11 items: 3, 5, 8, 9, 12,15,18,22,24,28,29; (3). Anxiety Problems, containing 8 items: 1, 2, 5, 14,23,27,38,40; (4). Low Self Efficacy, containing 4 items 4, 6, 10, 14.

2.13 Research hypotheses

In order to reach this objective, and based on review of literature and conceptual model presented, a series of hypotheses have been formulated.

Ho 1: There will be a positive correlation between the SRRS and RRS.

Ho 2: The subscales of RRS will be positively related with SRRS.

Ho 3: There will be a inverse correlation between self-efficacy and relapse.

Ho 4: There will be a inverse correlation between self-efficacy and subscales of RRS.

Ho5: Gender, age, marital, family size and educational differences predict relapse tendency.

2.3 Instrument: Following scale were used to obtain data

2.3.1General Self-efficacy Scale (GSES; 1995). In order to measure self-efficacy among substance dependence General Self-efficacy Scale(GSES; 1995) was used. Schwarzer, & Jerusalem, scale of self-efficacy (GSES, 1995) consists of 10- items, anchored on four response levels ranging from 'Exactly true' to 'Not at all true' GSES is a unidimensional scale is outcome measure used to assess optimistic self-beliefs to cope with a variety of difficult demands in life. In particular, this scale explicitly refers to personal agency, i.e., the belief that one's actions are responsible for successful outcomes. It requires 4 minutes on average to answer the questions. Responses are made on a 4-point scale. Responses to all 10 items are summed up to yield the final composite score, with a range from 10 to 40. No recoding. Cronbach's alphas ranged from .76 to .90.

2.3.2 Relapse Risk Scale (RRS). Relapse Risk Scale (RRS), is a 44-item self-report multidimensional instrument, which proposes to measure relapse risk among substance dependents. It is a 5-point Likert type rating scale with response options ranging from 'strongly agree' (5), 'agree' (4), 'undecided' (3) to 'disagree' (2) and 'strongly

disagree' (1). Of the total, 44 items are positively worded, the mean score on the total scale of RRS = 134 with SD = 36.

2.3.3 Stimulant Relapse Risk Scale (SRRS). Stimulant Relapse Risk Scale, is a 35-item measure of relapse developed by (SRRS; Ogai et al., 2007) based on the Marijuana Craving Questionnaire (Heishman et al., 2001).

2.3.4 Demographic Information Sheet. The demographic information sheet was constructed to gather following information such as age, gender, education level, ethnicity, income, marital status, religion, socioeconomic background.

2.3.5 Procedure. All participants received hard copies of RRS to fill in and then the instruments were placed in an envelope; each participant was instructed to fill all the items carefully and after completion kept them in an envelope.

3. Results

3.1Exploratory factor analysis: In order to explore issue psychoanalysis The investigative aspect study of the RRS scores of 200 SUDs with substance dependence shown 4 factor with eigenvalues of 8.39, 6.35, 5.65 and 3.68 these factors accounted for 37.03% of total discrepancy (12.91%, 9.76%, 8.69%, and 5.67%). Cronbach's alpha values for factors 1, 2, 3, 4, and all items were .92, .82, .79, and .75, in that order. Consequently, the factors were rotated using the Principal Component Analysis using orthogonal method. Along the original 65 items, 44 items were taken and 21 items were castoff. Examination of the content of the items loaded on each factor revealed that four of the dimensions of Relapse , namely 'Negative emotional state', 'Positive emotional state and personal factor, and 'positive expectancies and compulsivity to use drugs' emerged almost thematically similar to what was postulated by Marlatt.

Whereas the other dimensions, namely 'urges and cravings & lifestyle factor' and 'high risk situation & social pressure' merged to form a single first factor, contrary to the predictions. Thus in accordance with Marlatt's proposition, this factor was labeled as "positive expectancies and compulsivity to use drugs" (PECUD). Twenty one items loaded significantly (>. 40) on this dimension, In-depth analysis of the content of the items of this factor showed that a number of items related with openly expressing one's thoughts and inclination to use drugs also loaded on this dimension. Therefore in consultation with Marlatt's work, this dimension was renamed as 'Abstinence Violation Effect '(AVE). Basically 11 items loaded significantly (>.40) and the other third factor was labeled as "anxiety problems, "(AP) and loaded 8 items and the fourth factor labeled as "low self-efficacy" (LSE). This factor accounted for 5.71% of the total variance. The factor structure afterward the orthogonal rotation revealed in Table 1.

Factors						
Item no	1	2	3	4		
q56	.67					
q54	.68					
q36	.61					
q48	.61					
q53	.59					
q41	.56					
q28	.54					
q62	.54					
q58	.52					
q21	.52					
q49	.52					
q42	.49					
q63	.47					
q61	.48					
q37	.47					
q50	.47					
q15	.44					
q26	.42					
q55	.43					
q60	.41					
q52	.32					
q5		.65				
q45		.56				

 Table 1: Factor Loadings of the 44 items of Relapse Risk Scale (RRS) through Principal Component

 Analysis using Rotated Orthogonal Factor (N=200)

q32	.55			
q4	.54			
q20	.49			
q16	.46			
q38	.43			
q25	.42			
q17	.41			
q40	.34			
q44	.29			
q1		.56		
q57		.52		
q23		.41		
q39		.48		
q43		.48		
q59		.42		
q3		.39		
q12		.34		
q33			.62	
q18			.51	
q19			.51	
q13			.45	
D 00				

P > 00

3.1.2Convergent Validity of the Relapse Risk Scale (RRS)The convergent validity of the scale was established based on correlation of the scores obtained by the subjects in RRS with the scores in the other measurement named SRRS.in the study convergent validity was determined by correlating RRS with SRRS (SRRS; Ogai et al., 2007).The result are presented below in Table 2.

 Table 2: Means and Standard Deviations of RRS and Inter correlations of scores on the Relapse Risk Scale (RRS) and its four subscales (44 items=200)

Subscales	Mean (S.D)	I	II	III	IV
Positive Expectancies and	65.18(19.21)	-	.75**	.75 **	.59**
Compulsivity to use drugs					
Abstinence Violation Effect	31.40(9.60)	-	-	.71**	.59**
Anxiety Problem	23.95(7.42)	-	-	-	.58**
Low Self Efficacy	14.30(4.13)	-	-	-	-

In order to explore the extent to which SRRS is related with RRS, correlations were computed between both scales and SRRS and subscales of RRS. Table 3 lists the correlation matrix which shows that SRRS is significantly related with RRS and its subscales.

Table 3: Correlation Coefficients between Stimulant Relapse Risk Scale (SRRS) and Relapse Risk Scale (RRS) and its Subscales (N = 100)

Scales/Subscales	Stimulant Relapse Risk Scale				
Relapse Risk Scale (RRS)	.77**				
Positive Expectancies and	.81**				
Compulsivity to use drugs					
Abstinence Violation Effect	.51**				
Anxiety Problems	.46**				
Low Self Efficacy	.24**				
4470 000					

**P< .000

3.1.3Construct Validity of the Relapse Risk Scale (RRS)

In order to achieve this objective, a study was carried out to investigate the relationship construct- relapse with a theoretically related construct-self efficacy. We found that mean and standard deviation of RRS, is (M =123.6, SD = 36.78) and alpha value of RRS is .95, while mean and standard deviation of GSES is (M =27.44, SD = 7.785) and alpha value is .92.we also found

Correlation between the GSES and the Relapse Risk Scale (RRS), RRS .41**, PECUD .39**, AVE .29**, AP, .42**, and LSE .37**.

4.Reliability

4.1.1Internal Consistency: In order to establish the overall internal consistency of RRS, coefficient alpha was calculated with the original and with the reduced number of items, Despite the diversity of item content, the scale showed alpha coefficient of .94 for 65 items of the original scale, which increased to .95 for 44 items of the final version of the scale. For the four subscales of the scale, the values of internal consistency obtained were: Positive expectancies and compulsivity to use drugs, .92- Abstinence Violation Effect .82- Anxiety Problems .79- Low Self Efficacy .75. The values of internal consistency were accepted for all four subscales of the scale.

5. Discussion: Relapse warning signs related to substance dependent are a complex and increasingly discussed topic. In the current research, we developed the RRS, in Urdu language to assess relapse risk among substance dependence in Pakistani drug dependents, and statistically observed its inward structure, reliability, as well as validity. Thus, four factors discovered, and the internal consistency, convergent validity, and construct validity of these factors revealed. It was particularly significant that part of the RRS was linked to relapse, implying its probability of forecasting relapse. Our findings revealed that the RRS has multidimensional psychometric properties and thus valuable for evaluating the several facets of relapse risk. A cognitive behavioural model of relapse given by Marlatt and Gordon (1985), Donovon and Chaney (1985) and (Moos et al. 1979), guided the development of RRS.

6. CONCLUSIONS: This study revealed that the RRS is a valid and reliable instrument for substance dependents. Since the lack of scales to specifically measure risk of relapse amongst substance dependents, this research is a useful tool for assessing prior risk and to prevent or to reduce relapse in substance dependents. This research tool is distinctive as, compared to other clinical relapse tools; it measures a wider range of relapse risk observed in substance dependents. The RRS may also be useful in further investigations on the nature of substance dependents behavior patterns and the manner. Possible redundancy present in the process of validation of the scale with the RRS Relapse Risk subscale should also be investigated in future research. The outcomes revealed a high correlation between the SRRS relapse subscale and the RRS.one limitation of the present study is small sample size, further study with more representative sample

Substance dependents (both male and female) who met the criteria of DSM IV –TR were included in the study. The RRS scale has multidimensional psychometric properties useful for assessing the different aspects of substance relapse risk.

If validated in future studies, they may be used clinically to identify people at high risk of relapse. Moreover, the findings reviewed also indicate that chronicity is important in the substance relapse process. Thus, individuals who show chronic substance dependence related effects of stress and craving could benefit from treatments that target stress effects on craving and alcohol seeking. Development of such treatment strategies may be of tremendous help in normalizing stress responses and decreasing drug craving so as to improve relapse outcomes in substance dependence.

REFERENCES

- Allan, C.A. & Cooke, D.J. (1985). Stressful life events and alcohol misuse in Women: A critical review. *Journal of Studies Alcohol* 46: 147-152.
- Brown, S. A., Vik, P. W., Patterson, T. L., Grant, I., & Schuckit, M.A. (1995). Stress, vulnerability and adult alcohol relapse. *Journal of Studies on Alcohol*, 56, 538–545.
- Buhringer, G. (2000). Testing CBT mechanisms of action: Humans behave in a more complex way than our treatment studies would predict. *Addiction Journal*, 95, 1715-1716.
- Donovan, D.M. (1996). Marlatt's classification of relapse precipitants: Is the Emperor still Wearing clothes? *Addiction Journal*, 91, 131-137.
- Donovan, D. M., & Chaney, E. F. (1985). Alcoholic relapse prevention and intervention: Models and methods. In G.A. Marlatt& J.R. Gordon (Eds.), *Relapse prevention-Maintenance strategies in the treatment of addictive behaviors* (pp. 351-416). New York: Guilford.

Drummond, D.C. (2001). Theories of drug craving, ancient and modern Addiction 96, 33-46.

- Gorski, T. F., & Miller, M. (1982).Counseling for relapse prevention. Independence, MO: Herald House Independence Press.
- Greenfield Hall, S.M., Havassyb, .E. & Assermand, W .(1990).A Commitment to abstinence and acute stress in relapse to alcohol, opiates, and nicotine. *Journal of .Consulting Clinical Psychology. 58:* 175-181.
- Heisman, S.J., Singleton, E.G., Liguori, A, (2001). Marijuana Craving Questionnaire: development and initial validation of a self-report instrument. Addiction 96, 1023–1034.
- Marlatt, G. A., Baer, J. S., & Quigley, L. A. (1995).Self-efficacy and addictive behavior. In: Bandura, A., ed. Self-Efficacy in Changing Societies. New York: University Press, pp. 289–315.
- Marlatt. G. A. (1996). Lest taxonomy become taxidermy: A comment on the relapse replication and extension project. *Addiction Journal*, 91, 147-153.
- Mahmood Nazar Mohamed (1996). Peranan & Penglibatan Keluargadan Masyarakat Dalam Pencegahan Penagihan Berulang. Jurnal Perkama. Bil.6.ISSN 0127/6301.PersatuanKaunseling Malaysia.
- Marlatt, G. A., & Gordon, J. R. (Eds.) (1985). *Relapse prevention: Maintenance strategies in the treatment of addictive behaviors*. New York: Guilford Press.
- Moos, R. H., Bromet, E., Tsu, V., & Moos, B. (1979). Family characteristics and the outcome of treatment for alcoholism. *Journal of Studies on Alcohol* 40:78-88.
- Ogai, Y., Haraguchi, A., Kondo, A., Ishibashi, Y., Umeno, M., Kikumoto, H., Hori, T., Komiyama, T., Kato, R., Aso, K., Asukai, N., Senoo, E., & Ikeda, K. (2007). Development and validation of the stimulant relapse risk scale for drug abusers in Japan. *Drug and Alcohol Dependence*, 88(2-3), 174-181.
- Rasmussen, S. (2000). Addiction Treatment: Theory and Practice. Beverly Hills, California: Sage Publication, Inc.
- Rychtarik, R. G., Prue, D. M., Rapp, S., & King, A. (1992). Self-efficacy, aftercare and relapse in treatment program for alcoholics. *Journal of Studies on Alcohol*, 53, 435-440.
- Schwarzer, R., & Jerusalem, M. (1995).Generalized Self-Efficacy scale. In J. Weinman, S. Wright, and M. Johnston (Eds.), *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). Windsor, UK: NFER-NELSON.
- Tabassum, U., Rehman, G., Schwarzer, R., & Jerusalem, M. (2003).Urdu Adaptation of the General Self-Efficacy Scale. [Online] available: http://userpage.fu-berlin.de/~health/urdu.htm. Last accessed 5th Nov 2004.
- Velicer, W. F., Diclemente, C. C., Rossi, J. S., & Prochaska, J. O. (1990). Relapse situations and self-efficacy: An integrative model. *Addictive Behaviors*, 15, 271-283.
- Wikler, A. (1973). Dynamics of drug dependence: Implications of a conditioning theory for research and treatment. *Archives of General Psychiatry*, 28, 611-616.
- Witkiewitz, K. & Marlatt, G.A. (2004). Relapse Prevention for Alcohol and Drug Problems. *American Psychologist*, 59,224-235.