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Original Research Article

Effects of Self-Efficacy on Addiction Recovery and Relapse in Substance Users

Amandeep Bhullar[1] and Sunita Gupta[2]

ABSTRACT

This paper examined the effects of self -efficacy (general and coping self –efficacy) on addiction recovery and relapse in substance users. The participants of the study were 100 Opiod dependence disorder diagnosed male patients, aged 21-40 years, undergoing treatment at Drug De-Addiction & Treatment Centre in Tertiary Care Hospital, Amritsar (Punjab). The General Self-Efficacy Scale developed bySchwazer and Jerusalem (1995), Drug-Taking Confidence Questionnaire developed by Sklar and Turner (1999), Brief Assessment of Recovery Capital developed by Vilsaint et al.(2017) and the AWARE Questionnaire developed by Miller and Harris (2000) were administered to the subjects to assess general self -efficacy, coping self -efficacy, recovery capital and relapse risk respectively. The obtained data was analyzed using a one-way Analysis of Variance (ANOVA). The results clearly revealed that general self -efficacy had a significant main effect on addiction recovery [F (1, 98) =6.96, p<0.01)] but the main effect of general self -efficacy on addiction relapse was found to be statistically non-significant [F (1, 98) =0.79, p<0.01). High scorers on general self- efficacy outperformed low scorers on addiction recovery capital. The findings also revealed that coping self- efficacy in substance users had a significant main effect on both the dependent variables, addiction recovery [F (1, 98) =23.28, p<0.01] and relapse [F (1, 98) =22.06, p<0.01]. High scorers on coping self- efficacy scored higher on addiction recovery capital and lower on relapse risk.

Keywords: *Addiction, General Self- Efficacy, Coping Self- Efficacy, Recovery, Relapse*

INTRODUCTION

Substance use has increased drastically in recent years, particularly in northern Indian states such as Punjab, and Amritsar being a border district, has become a hotspot for the drug trade. A recent National Study on the Prevalence and Pattern of Substance Use in India by Ambedkar A., et al. (2019) found 77 lakh "problem" opioid users in India, with heroin being the most often used opioid (1.14%).

An increasing body of research implies that a subset of substance users have a chronic condition that cycles through relapse, treatment re-entry, and recovery over several years (Anglin et al., 2001).Relapse prevention is an important part of recovery, which is perhaps the most important stage in the continuum of substance dependence.

Self-efficacy influences drug use and retention after SUD treatment, according to theoretical models of relapse prevention (Marlatt & Gordon, 1985) and stages of change for substance use disorders (DiClemente et al., 1995). According to Witkiewitz and Marlatt (2004), self-efficacy predicts post-treatment lapse or return to substance use, and more self-efficacy to stay abstinent in high-risk situations should lead to better abstinence outcomes.

In the context of addictive behaviours, the concept of perceived self-efficacy has been extensively investigated. Bandura (1995, p. 2) defined perceived self- efficacy as the "beliefs in one's ability to organize and execute the courses of action required to manage potential situations."

Self-efficacy theory in addictions suggests that successful coping in high-risk settings promotes perceived self-efficacy, which reduces relapse vulnerability (Marlatt & Gordon, 1985). Hence, coping self-efficacy is crucial for addictive behaviours.

Recovery from a substance use disorder is defined as a process of improved physical, psychological and social well-being and health after having suffered from a substance related problem. The Betty Ford Institute Consensus Panel (Betty, 2007) defined recovery as "a freely maintained lifestyle defined by sobriety, personal health and citizenship". This transition is enabled by Recovery capital. Recovery capital (RC) refers to the internal and external resources required to begin and sustain recovery (Granfield& Cloud, 1999; Cloud &Granfield, 2004).

A Relapse is a stage when a person makes a full-blown return to using drugs or alcohol after a period of sobriety. Substance addiction treatment helps people recognize advance warning signs of relapse, i.e. relapse risk to substantially minimize the chance of relapse. Relapse risk has been defined as clinical indications and symptoms that precede relapse post-treatment (Ogai et al., 2007).

[1] Research Scholar, Department of Psychology, Guru Nanak Dev University, Amritsar, Punjab
[2] Professor and Head, Guru Nanak Dev University, Amritsar, Punjab

For the purpose of this study, the key variableSelf-efficacy (studied as General Self Efficacy and Coping Self Efficacy) has been chosen as an independent variable, with Recovery (recovery capital) and Relapse (relapse risk) as dependent variables.

Self-efficacy for substance/drug use influences relapse behaviour. In a study on substance users, higher self-efficacy ratings were related with abstinence and lower ones with significantly more drug use (Hagmann, 2004).Concurrently, research on substance users using situational confidence questionnaires and general self-efficacy for abstinence found that recovering addicts with greater self-efficacy scores were less likely to relapse (Ilgen et al., 2005).

Ibrahim et al. (2011) found that drug users with low self-efficacy were more likely to relapse. Higher self-efficacy was connected to longer abstinence and lower relapse risk by Kadden and Littman (2011). Similarly, Chavarria et al. (2012) discovered that increased self-efficacy reduced the chance of substance relapse.

Abdollahi and colleagues (2014) discovered a substantial correlation between drug usage and overall self-efficacy, as well as a correlation between relapse and self-efficacy. Saboula et al. (2019) observed a statistically significant positive correlation between relapse and total self-efficacy in a group of addicts investigated. These findings emphasize the importance of an individual believing that he or she can overcome the power of addiction and remain substance free.

Those who have both the essential skills and significant coping efficacy, according to Bandura (1986), are more likely to mobilize the effort required to successfully resist high-risk drinking or drug use situations.

Drug and alcohol abstinence is the most crucial behavioural change for substance abusers in recovery. Hence, self-efficacy to stay sober is crucial to recovery (Bandura, 1999).Researchers in substance abuse recovery are particularly interested in perceived abstinence self -efficacy. Abstaining from a variety of habitual behaviours, such as smoking, using illicit substances, and excessive drinking, requires self-efficacy (Lee &Oei, 1993).

Self-efficacy is the belief that an individual will be able to refrain from engaging in an undesirable action. Self-efficacy predicted opioid-dependent patient treatment outcomes (Reilly et al., 1995). Ilgen et al. (2005) found that maximum level of abstinence self-efficacy was the strongest predictor of 1 year abstinence. Self-efficacy helped substance abusers recover, according to a research done by Moos (2007).

Ilgen et al. (2007) assessed patients' self-efficacy to abstain from all substances in tempting situations (e.g., negative emotional states, negative physical states, interpersonal conflict) and found that higher self-efficacy was associated with lower alcohol and drug use. In addition, it was found that longer abstinence increases self-efficacy (Haggmann 2004; Kadden and Littmann 2011).Self-efficacy predicted decreased cocaine usage in many other researches (McKay et al., 2001; McKay, et al, 2005; Warren et al., 2007). Higher self-efficacy beliefs make people more self-protective and successful at stopping drugs, according to Nikmanesh et al. (2017).

Self-efficacy is frequently a therapy goal because it is a key indicator of recovery from substance abuse, including cocaine addiction, alcoholism, opioid addiction, and tobacco addiction (Hussain et al., 2021). In another study, Anand et al. (2022) conducted a study to predict patients' confidence in recovery and self-efficacy and foundthat self-efficacy significantly predicted patients' confidence in recovery.

Another predictor of treatment outcome that is general across substances, including cocaine, is coping self-efficacy (Baer et al., 1986; Gulliver et al., 1995; Kavanaghet al., 1996; Reilly et al., 1995; Solomon &Annis, 1990). Coping self-efficacy at intake and treatment completion predicted follow-up abstinence in cocaine-addicted individuals (Avants et al., 1996; Coon et al., 1998; Bryant et al., 1997). The cocaine addicts with high-coping self-efficacy were found to be more motivated to recover (Miller, 1991; Sklar et al., 1999; Sklar& Turner, 1999).

Not all studies, however, have established that coping self-efficacy is a predictor of outcome. Wong et al. (2004) discovered that prior abstinence, not coping self-efficacy, was a better predictor of future abstinence. These findings are consistent with those of Baer et al. (1986) and Reilly et al. (1995).

Self-efficacy i.e. confidence in future drug and alcohol use predicted relapse as well as recovery in former substance abusers (Jason et al., 2007; Jason, Olson et al., 2007; Trucco et al., 2007).

Rationale:

Given the magnitude of the drug addiction problem in India; recovery and relapse being distinct stages of addiction, and based on a theoretical framework (Model of Relapse Prevention by Marlatt & Gordon, 1985) emphasizing the importance of self -efficacy in addiction recovery and relapse, the current study was designed to investigate the effects of self -efficacy on addiction recovery and relapse in substance users.

As most studies have been conducted on alcohol users, and not much work has been done in the context of self-efficacy and drug/opioid use and very few researches

are available where self-efficacy has been studied in relation to addiction recovery, hence the present study has been conceptualized.

However, some studies have discovered that prior abstinence, and not coping self-efficacy, was found to be a stronger predictor of future abstinence (Wong et al., 2004 and Reilly et al. (1995). Hence, more research on coping self-efficacy in drug users is clearly needed.

Objectives:

The main objectives of the present study were

1. To study the effects of general self-efficacy on addiction recovery and relapse in substance users
2. To study the effects of coping self-efficacy on addiction recovery and relapse in substance users.

The following hypotheses were framedon the basis of the review of the literature and theoretical framework supporting addiction recovery and relapse prevention:

1. General Self efficacy will produce a significant effect on recovery in substance users. Specifically, those having high general self- efficacy will have high level of recovery as compared to those with low general self-efficacy.
2. General Self efficacy will have a significant effect on relapse risk in substance users. Specifically, those having high general self- efficacy will have low risk of relapse as compared to those with low general self-efficacy.
3. Coping Self efficacy will have a significant effect on recovery in substance users. Specifically, those having high coping self- efficacy will have high level of recovery as compared to those with low coping self-efficacy.
4. Coping Self efficacy will have a significant effect on relapse risk in substance users. Specifically, those having high coping self- efficacy will have low risk of relapse as compared to those with low coping self-efficacy.

METHOD

Sample

The sample comprised of 100 male subjects aged 21-40 years, diagnosed for Opiod Dependence Disorder as per ICD-10 classification, drawn from the patients seeking treatment in Drug De-Addiction & Treatment Centrein Tertiary Care Hospital, Amritsar (Punjab), over a period of about 06 months (March 2022-August, 2022) using purposive sampling method. All the subjects were from rural background and the minimum qualification was matriculation. The study included two experiments , one for general self- efficacy and other for coping self- efficacy and each experiment consisted of 100 subjects. The subjects in both experiments were divided into two groups; "high scorers" and "low scorers" in equal numbers based on the median of their total scores on the independent variable, general self -efficacy (median=34.7) /coping self -efficacy (median=55.5). Each group consisted of 50 subjects.

Inclusion Criteria

- Patients meeting the criteria of ICD-10 for opioid dependence disorder
- Patients were in age group 21-40 years and belonged to rural backgrounds
- Patients who had completed at least matriculation level of education
- Patients willing to participate in the study

Exclusion Criteria

- Patients with co-morbid physical, psychological, and psychiatric disorders were excluded from the study.

Ethical Considerations

1. Ethical clearance was obtained prior to the commencement of the study from the Institutional Ethics Committee of Guru Nanak Dev University, Amritsar, Punjab, India. A written permission was also taken from Head of Psychiatry and De-Addiction Centre, tertiary Care Centre, Amritsar, Punjab, India.
2. A written informed consent was taken from each patient who was willing to participate in the study. The participants were briefed about the purpose & method of the study as well as the content of the self -administered questionnaires prior to the start of the study.

Psychological measures used

1. **General Self Efficacy Scale (GSE)(**Schwazer and Jerusalem, 1995**),** a 10 item self- report measure of general self- efficacy was used to measure general self-efficacy. The internal reliability, i.e. Cronbach's alpha coefficient for general self-efficacy scale as reported by authorranged between 0.79-0.90 while for the present study, it was 0.82.
2. **The Drug-Taking Confidence Questionnaire (DTCQ-8D)**(Sklarand Turner, 1999)is a brief 8 item measure of coping self –efficacy for substance users to measure client's confidence in his or her abilities to cope in situations that are high risk for substance use. The internal reliability i.e. Cronbach's alpha coefficient fordrug taking confidence questionnaireas reported by author ranged between 0.79-0.95 while in the present study, it was 0.85.
3. **Brief Assessment of Recovery Capital (BARC-10)** (Vilsaint et al., 2017**),** a 10 item strength based measure

was used to measure recovery capital. The internal reliability i.e. Cronbach's alpha coefficient for Brief assessment of recovery capital as reported by author is 0.90 while in the present study, it was 0.86.

4. **The AWARE Questionnaire (Advanced Warning of Relapse)**(version 3.0) (Miller and Harris, 2000). This 28 item scale designed as a measure of the warning signs of relapse was used to measure relapse risk. The internal reliability, i.e. Cronbach's alpha coefficient forthe AWARE questionnaire as reported by author was 0.92 while in the present study, it was 0.81.

Procedure

The psychological tests were administered individually to all the participants after establishment of good rapport with them. The response sheets were scored according to the scoring instructions given in the respective manuals .On the basis of median, scores on independent variable were divided into high and low scores.

Statistical analysis and Results:

The Statistical Package for the Social Sciences for Windows was used to analyze the research data (SPSS for Windows –V 22.0). A one-way ANOVA was used to study the effects of General Self Efficacy and Coping Self Efficacy, separately on Addiction Recovery and Relapse in Substance users.

RESULTS

The results of the study are summarized in Table 1-6.

Table 1*:* Means and SDs of Addiction Recovery and Relapse scores for high and low groups on General Self Efficacy (n=50)

GROUPS	Statistics	Addiction Recovery	Addiction Relapse
HIGH GSE (n=50)	MEAN	50.056	104.000
	SD	6.1993	28.4021
LOW GSE(n=50)	MEAN	46.739	108.891
	SD	6.3366	26.2520

Table 2: Summary of One- way Analysis of Variance for Addiction Recovery in General Self Efficacy groups

Source of Variance	Sum of Squares	df	Mean Square	F	p
Between Groups	273.207	1	273.207	**6.966**	**.01**
Within Groups	3843.703	98	39.221		
Total	4116.910	99			

Table 3: Summary of One- way Analysis of Variance for Addiction Relapse in General Self Efficacy groups

Source of Variance	Sum of Squares	df	Mean Square	F	p
Between Groups	594.293	1	594.293	0.790	NS
Within Groups	73766.457	98	752.719		
Total	74360.750	99			

The results as depicted in Table No. 2 clearly revealed that general self- efficacy produced a significant effect on addiction recovery [F (1, 98) =6.96, p<0.01)]. The high scorers on general self-efficacy scored higher on addiction recovery capital as compared to low scorers (Table no.1). However, the effect of general self-efficacy was found to be statistically non-significant on addiction relapse [F (1, 98) =0.79, p<0.01)] (Table no.3).

Table 4: Means and SDs of Addiction Recovery and Relapse for high and low Coping Self Efficacy groups (n=50)

Groups	Statistics	Addiction Recovery	Addiction Relapse
HIGH DTCQ (n=50)	Mean	51.231	95.019
	SD	5.1777	24.1722
LOW DTCQ (n=50)	Mean	45.604	118.417
	SD	6.4569	25.6398

Table 5: Summary of One way Analysis of Variance for Addiction Recovery in Coping Self Efficacy Groups (n=50)

Source of Variance	Sum of Squares	df	Mean Square	F	p
Between Groups	790.200	1	790.200	**23.278**	**.001**
Within Groups	3326.710	98	33.946		
Total	4116.910	99			

Table 6: Summary of One way Analysis of Variance for Addiction Relapse in Coping Self Efficacy groups

Source of Variance	Sum of Squares	df	Mean Square	F	p
Between Groups	13664.103	1	13664.103	**22.062**	**.001**
Within Groups	60696.647	98	619.354		
Total	74360.750	99			

The results as depicted in Table no.5 clearly revealed that coping self-efficacy produced a significant effect on both the dependent variables, addiction recovery [F (1, 98) =23.28, p<0.01] and relapse [F (1, 98) =22.06, p<0.01] in substance users (Table no. 6) . The high scorers on coping self-efficacy scored higher on addiction recovery capital as compared to low scorers (Table No. 4), whereas the low scorers on coping self-efficacy had high scores on relapse risk as compared to high scorers(Table no.6).

DISCUSSION

The purpose of this study was to examine the effects of self-efficacy (general as well as coping self- efficacy) on addiction recovery and relapse in substance users. The results of the present study clearly revealed that there are significant effects of coping self-efficacy on both addiction recovery and relapse and significant effects of general self-efficacy on addiction recovery. These results are in accordance with the theoretical

models given by Marlatt and Gordon, (1985) and Witkiewitz and Marlatt (2004).

The findings of the present study, therefore, also support the previous studies where higher self-efficacy was found to be associated with less drug use (Ilgen et al.,2007) and longer periods of abstinence (Kadden&Littmann,2011). Nikmanesh et al.(2017) also found that people with higher self-efficacy beliefs are more self-protective and successful at quitting drug use.

The findings of this studyalso revealed that coping self-efficacy had a significant effect on addiction recovery, and this finding has been empirically supported in several previous studies (Avantset al., 1996; Coon et al., 1998; Bryant et al., 1997).The effect of general self -efficacy on addiction relapse was found to be statistically non-significant in this study clearly revealing that people with high general self -efficacy may not always be able to resist the potential risk situations for drug use and might relapse.

However, this study also revealed that coping self-efficacy produced a significant effect on addiction relapse. According to Bandura (1986), people with both the necessary skills and strong coping efficacy are more likely to mobilize the effort required to successfully resist situations of high-risk drinking or drug use. In the event of a slip, highly self-efficacious people are more likely to view the slip as a temporary setback and regain control, whereas those with low self-efficacy are more likely to relapse completely.

Concurrently, research on substance users using situational confidence questionnaires and general self-efficacy for abstinence discovered that higher self-efficacy scores predicted a lower likelihood of relapse for individuals in substance abuse recovery (Ilgen et al., 2005).

Ibrahim, Kumar, and Samah (2011) also found that the lower the addicts' self-efficacy level, the more likely they were to relapse. Higher levels of self-efficacy are associated with longer periods of abstinence and a lower risk of relapse (Kadden & Littman, 2011; Chavarria et al., 2012). Similarly, Saboula et al. (2019) discovered a statistically significant positive correlation between relapse and total self-efficacy in the studied addicts.

CONCLUSION

These findings clearly indicated that general self-efficacy had a significant effect on recovery in substance users but had statistically non-significant effect on addiction relapse. On the other hand, the effect of coping self-efficacy was statistically significant on addiction recovery as well as relapse among substance users.

LIMITATIONS

1. The present study was primarily based on a treatment seeking population, which may differ from the general population.
2. The fact that men were used as a sample is also one of the limitations that prevents the findings from being generalized to the rest of the population, especially females.

Significance of present Research

The investigation of critical cognitive components of relapse prevention, such as self- efficacy, and relapse risk has significant implications for developing relapse prevention strategies for reducing relapse risk and promoting recovery.

Potential Conflict of Interest

Both the authors declare that they do not have any conflicts of interest.

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