Recovery Anchors: Social and Psychological Buffers Against Relapse in Drug Addiction

[1]. Sunita Devi (corresponding author**), [2]. Dr. Sandeep Singh**

[1]Research Scholar
Department of Applied Psychology
Guru Jambheshwar University of Science and Technology, Hisar (Haryana), 125001
ORCID Id: 0009-0008-9064-6126
E-mail: rs210110090103@gjust.org
[2]Professor
E-mail: sandeephisar@gmail.com
Department of Applied Psychology
Guru Jambheshwar University of Science and Technology, Hisar (Haryana)

KEYWORDS

Resilience, social support (SS), drug addiction, relapse.

ABSTRACT

Background: Relapse is a complicated process to reiterate. A lot of biological, psychological, and social variables affect it. **Objectives:** The present research study aimed to examine the impact of resilience and social support (SS) on relapse periods of drug abuse. **Method:** A total of 300 drug users who relapsed within a year following medical treatment were included in this study. Participants range in age from 20 to 48 years. Social support and resilience were assessed using self-reported measures. The hypotheses were tested using descriptive statistics and a decision tree model (classification and regression trees) with SPSS 26. **Results & Discussion:** Both research hypotheses are accepted. A strong protective effect is shown by high social support (>28.00) delaying relapse by significantly (8-12 months) and prolonging the time to relapse to 100%. On the opposite side, early relapse (0-4 months) is characterized in individuals with low social support (≤28.00), particularly those with low resilience (≤12.50) i.e. 68.5%. Low social support, however, does not completely offset the harmful effect of low support, but resilience does moderate the effect and delays relapse out to 4-8 months for those with intermediate resilience (≥12.50). **Conclusion:** In conclusion, this study highlights the significance of social support and resilience in predicting the likelihood of relapse in individuals in drug addiction treatment. Social support is the most important predictor, and higher levels significantly delay relapse. Resilience is a major moderator, although being secondary, particularly for individuals with limited social support..

Introduction

In short, a hallmark of all drug addiction is compulsive drug-seeking behavior and the inability to stop drug use despite adverse consequences [1]. Despite current short-and long-term treatment programs, some people have yet to achieve long-term recovery, while the risk of relapse continues even after extended periods of abstinence [2]. An important barrier to effective therapy and recovery, relapse is sometimes referred to as a return to use of drugs following an interval of abstinence. As a result, today, addiction researchers and therapists

focus on determining what contributes to relapse, with the goal of creating more successful intervention techniques [3]

Relapse is a complicated process to reiterate. A lot of biological, psychological, and social variables affect it. However, theories such as the biopsychosocial model, coping strategy, social context, and personality as individual factors all influence addiction alongside neurobiological process [2], [4] One example of which is that neurobiological research has shown the structure and function of the brain is altered by long term drug use, particularly in regions connecting to reward processing and impulse control. People are more likely to relapse when they are stressed or reminded of drugs by a cue (cues to drugs) [5]. But neurobiology alone will not explain variation in rates of relapse; and psychosocial variables are playing a role in preventative relapse [6].

Psychological component of relapse is social support. Marlatt and Donovan [3] stated that a person could get emotional, practical and informational support from his/her family, friends, and community. Supportive social network increased coping mechanisms, decreased feelings of loneliness and improved resilience and these are protective factors against relapse [6]. However, those who have no supportive connections tend to relapse more frequently because they may use drugs as a coping mechanism for stress or unpleasant feelings [2]. Social support, including other recovering addicts in one's social network, will help mitigate peer pressure as much as remarketing the losses of abstaining from drug use [7]Another important component of addiction treatment is resilience, or the capacity to adjust constructively in the face of difficulty. Resilient people are less prone to relapse in the face of adversity and are frequently better able to manage the pressures and problems that come with rehabilitation [2]. Longer relapse-free periods are linked to resilience because it has been linked to good coping strategies and increased psychological well-being [7], [8] By encouraging a positive attitude and boosting self-efficacy, high resilience may help people stay sober by decreasing the risk that they would use drugs as a coping mechanism [9].

Even while knowledge on the importance of resilience and social support in addiction treatment has advanced, there are still many unanswered questions about how these elements interact and affect when relapses occur. Without looking at when relapse happens or what variables could hasten or postpone its development, the majority of research treat relapse as a binary outcome (i.e., relapsed vs. not relapsed)[10] Because many people have several relapses, some soon after treatment and others after extended sobriety, timing is crucial [3], [11]. By knowing when relapses occur and what variables influence them, relapse prevention techniques can be more successful by implementing focused interventions during high-risk times [11]

By investigating the connection between psychosocial factors—more especially, social support, resilience, optimism, coping, peer pressure, and psychological well-being—and the occurrence of relapse in a sample of drug addicts, the current study seeks to close this gap. This study will shed light on how these psychosocial factors affect the chance of relapse at various phases of recovery by classifying relapse into discrete periods (e.g., relapse within 0–4 months, 4–8 months, and 8–12 months). This technique may be useful for clinicians as they can learn what cases are likely to relapse early on and adjust therapy accordingly.

Finally, relapse is still a frequent and complicated problem in the therapeutic and rehabilitation field of people with substance addiction. Traditionally, relapse prevention strategies tend to focus on neurobiological therapies, but psychosocial factors, such as resilience and social support, are equally important to long-term recovery. The purpose of this study is to help further our understanding of the importance of these components in relapse timing which will ultimately play a role in developing comprehensive and focused relapse prevention measures.

Literature Review

Social Support and Addiction Recovery

While there is general agreement among researchers that social support is a critical variable related to the cessation of substance use, as well as the prevention of relapse and long-term abstinence [2], [12]. Social support refers to the network of informational, practical and emotional resources provided by friends, family and neighbours. These resources can protect people from the stressors of addition related difficulties and can increase a person's coping ability [13]. Often when referring to addiction rehabilitation, social support comes in the form of accountability, encouragement, positive reinforcement, and a safe place that curtails substance use [6]. People with more social support are less likely to relapse than people who do not, research shows [14]. The social support creates a sense of community making people with substance use disorders feel less alone and lessening the impact of relapse triggers [13]. Supportive relationships provide a forum for people to talk about their experiences and to get knowledge from people who perhaps have overcome similar challenges [15].

However, the kind of support given and the calibre of relationships might affect how beneficial social support is. Positive, nonjudgmental support, for example, is more helpful than directive or controlling types of support, which might result in increased resistance and stress [6]According to Dobkin et al. [14] consistent long-term support is more successful than short-term therapies at preventing relapse, and the time and type of support are crucial factors. Even though social support has been shown to have many positive effects, less is known about how it affects the timing of relapses, a particular factor that could be important for developing focused interventions.

Resilience and Addiction Recovery

Addiction recovery also requires resilience, which is the capacity to adjust constructively to hardship [16], [17]. People who are resilient are able to manage stress, refrain from using unhealthy coping mechanisms, and persevere through trying situations that could otherwise cause relapse [17]. It is especially pertinent to addiction recovery, where patients must recreate their lives after treatment while navigating pressures, cravings, and potential relapse triggers [18]. Research has indicated that resilience is linked to more successful recovery outcomes and longer relapse-free periods [9]. Resilient people are less likely to turn to drugs as a coping mechanism because they are more capable of handling the psychological and emotional strain of recovery [7].

Self-efficacy, or the conviction that one can accomplish a goal, is directly linked to resilience and reinforces one's commitment to recovery [19]. People with high resilience reported higher life satisfaction and decreased rates of relapse in addiction recovery, according to a study [20], [21], [22]. Both internal characteristics, like optimism and emotional control, and external resources, such as community involvement and social support, influence resilience [16], [17]. Although the majority of research on resilience has concentrated on its constituent parts, comprehension of how resilience interacts with social factors to impact recovery is becoming more and more important. Wingo et al. [23] for instance, contend that resilience can act as a protective factor against relapse, especially in those who have fewer social support networks. Consequently, resilience may be compensatory with high resilience aiding to offset the adverse consequences of low social support.

Interaction of Social Support and Resilience

Addiction treatment has its pieces in resilience and social support, but not much is known about how they play off one another. Some research suggests that resilience may have active benefits for people with poor social support and ongoing rehabilitation even without help from the outside [17], [19]. Of course, these isolated individuals are more vulnerable to reliance on resilience and other inner resources to keep their recovery afloat [17], and a quality recovery requires more than a stable house, reliable jobs and a support base at home. In particular, social support may be 'outside' inspiration and encouragement that contributes to synergistic impact

with resilience. This means, that people having higher resilience may manage on their own and social support may provide 'outside' inspiration and encouragement to improve recovery outcomes [24].

Not only has research shown that those high in resilience and high in social support had the best recovery outcomes, including the longest observations without relapsing [17], but also it is these outcomes that strongly predicted the return to health in early recovery. This study suggests that the effectiveness of social support may depend on the effect on people to be resilient and resilience would be more effective with social support. In particular, social supports might strengthen resilience by providing opportunities to rehearse adaptive coping responses and maintain positive self-idea [24]. Similarly, more resilient people may be better at searching for and using social assistance, widening social ties and building resilience [20].

Gaps in Research on Social Support, Resilience, and Relapse Timing

Despite the benefits observed in social support and resilience in addiction treatment studies, surprisingly, the timing of relapses is little examined in terms of how these factors interact. Most research conceptualizes relapse as a binary outcome (e.g. relapsed vs. not relapsed), ignoring other variables like resilience and social support that may affect time to relapse, and may be important to focus on therapies during times of increased risk [12]. To determine who is at risk at what stage, having the knowledge about what are the specific relapse points and how long relapse-free periods can be prolonged [3].

Finally, while knowledge is lacking on how social support and resilience may interact, little is known about how this relationship may differ at different points of recovery, particularly as a person passes through different phases of recovery. Resilience, for instance, may grow more important as people encounter more persistent problems, while social support may be more important at the beginning of rehabilitation [23]. This study addresses these gaps by analysing social support and resilience as predictors of relapse time, and as process variables that can interact to affect when relapse occurrences occur. This strategy might help us figure out what psychosocial matters can contribute to help patients avoid relapse at different stages of recovery.

Objectives

1. To evaluate the impact of social support on relapse periods.
2. To evaluate the impact of resilience on relapse periods.
3. To investigate the interaction effect of social support and resilience on relapse periods.

Hypotheses

1. High levels of social support will lead to longer relapse-free periods.
2. High levels of resilience will lead to longer relapse-free periods.

Sample

The target population of the current study was individuals who use drugs (alcohol, opioids, etc.) and relapsed within 12 months after their medical treatment. The participants were in the age range of 20 to 48 years (mean = 32.92 with SD = 6.769). The current study involved a sample of 300 people. The sample was collected from the addiction hospitals of Haryana.

Ethical Practice: The study was carried out in compliance with the ethical guidelines for psychological research. Prior to gathering the required data from the chosen participants, the respondents were instructed on the objective of the study and given the consent form that follows:

"I have some personal questions for you that some individuals find hard to respond to. Your identity will never be used in conjunction with any of the information you provide, and your responses will be treated with the utmost confidentiality. You are free to leave this research at any moment, and you are not required to respond to any questions that you do not feel comfortable answering. We would be very grateful if you could assist us with this research. Would you be open to taking part?"

Research Method

Research Design

The current study applied quantitative research to address the need to establish the relationship between relapse time to drug addiction and other psychosocial factors including resilience and social support. In connection with the above factors, the objective of the research was to evaluate the role of these factors in relapse duration and this was categorized under relapse in 0–4 months, 4–8 months and 8–12 months. Conducted in a cross-sectional method, information was obtained from 300 consecutively recruited patients who had relapsed from drug dependency.

Variables and Measurement Tools

Three main hypothesis testing variables were used in the study; the two independent variables were social support and resilience, and one dependent variable was relapse timing. Relapse time, the dependent variable, was divided into three groups: those that occurred within 0–4 months, those that occurred within 4–8 months, and those that occurred within 8–12 months. These groups were established on how long the users took to have a relapse after medical treatment.

The Multidimensional Scale of Perceived Social Support (MSPSS) [25] was used to evaluate social support. This scale has twelve components in total. These twelve items are separated into three subscales: the friend subscale, the family subscale, and the significant other scale. Four components make up each subscale. A seven-point Likert scale is used to rate each item. 'Very strongly disagree (1), strongly disagree (2), mildly disagree (3), neutral (4), mildly agree (5), strongly agree (6), very strongly agree (7)' is the format for the responses. The sum of the points for each item is divided by 12 to determine the final score. The range of possible scores is 12-84. The Cronbach's alpha for the MSPSS ranges from 0.81 to 0.98, making it a good standardized test.

The Brief Resilience Scale, developed by Smith et al. [26], was employed to evaluate resilience. There are six items on this scale. Three of these things are positive, and three are negative ones. A five-point Likert scale is used to rate each item, and the format of the responses is as follows: Strongly disagree, disagree, neutral, agree, and strongly agree are the five possible responses. Scores range from 6 to 30 when all the values are added together. The sum of the scores is divided by six to determine the final score. More resilient people are those with higher scores on this scale. According to the current study, the scale's internal reliability coefficient is 0.82.

Data Analysis Technique

In the present work, the Decision Tree Model available in SPSS 26 was applied to examine the relationships between the psychosocial factors and the relapse time. A tree diagram is helpful in determining various factors, if any, and their interrelationships and is ideal in predicting any categories of results. The most critical variables, associated with the different categories of the time to relapse, are isolated by the decision tree since the database is divided into homogeneous subcategories according to the value of the independent variables (resilience and social support). Therefore, the technique used in the present investigation was the CRT (Classification and Regression Trees) which is most suited with continuous and categorical predictors. The decision tree method of data partitioning recursively partitions the data set and develops decision nodes reflecting the variables that can predict the time to relapse most accurately. Classification accuracy was utilized to determine the effectiveness of the current model and the current study provided insight into factors regarding relapse time in the sample population.

Uses and Significance of Decision Tree Model

The decision tree model is a useful, interpretable tool for deciding which variables are important predictors for a complex phenomenon like relapse in drug addiction, and at what levels the predictor variables act. In this study, it was very effective at segmentation participants

by the level of social support and by resilience, then it was able to make clear decision rules about when to relapse. The tree's hierarchical structure made possible a step-by-step examination of how psychosocial factors interact, including both direct effects and moderating relationships [27]. The advantage of using the decision tree is that it allows us to simplify complex relationships into simple forms, which enables both researchers and practitioners to look for the high-risk groups and critical intervention points. For example, the model shows that early relapse is predictably most strongly driven by low social support, and that resilience moderates the link between low support and early relapse. This can help direct targeted interventions focusing resources on improving social support and resilience among vulnerable individuals.

Results

As per the formulated hypotheses, the following results are obtained:

Hypothesis 1: High levels of social support will lead to longer relapse-free periods

According to Figure 1 and Table 2, the data indicates that social support is a critical factor in determining relapse periods. Participants with social support ≤28.00 predominantly relapse within 0-4 months (48.5%) and similarly in 4-8 months (48.5%), suggesting that low social support is linked to early relapse (Node 1). Only a small percentage of this group remains relapse-free for the 8-12 month period (2.9%), further supporting the hypothesis that lower social support is associated with shorter relapse-free intervals. In contrast, those with social support >28.00 (Node 2) show a starkly different pattern: 100% of this group experiences relapse in the 8-12 month range, demonstrating that high social support extends the period before relapse occurs. This result (Node 1 and Node 2) highlights the protective role of social support, where individuals with higher social support experience significantly longer relapse-free periods.

Hypothesis 2: High levels of resilience will lead to longer relapse-free periods

Resilience also plays an important role, particularly among individuals with low social support. According to Table 2 and Figure 1, among participants with social support ≤28.00, those with resilience ≤12.50 face the highest relapse rates in the 0-4 month period (68.5%) (Node 3), indicating that lower resilience exacerbates the risk of early relapse. Again Node 3 shows a moderate relapse rate within 4-8 months (31.5%). Conversely, individuals with resilience >12.50 (Node 4) show a shift in relapse timing, with 90% relapsing within 4-8 months and only 10% remaining relapse-free for 8-12 months. These findings (Node 3 and Node 4) underscore that higher resilience can buffer the negative effects of low social support, thereby extending the relapse-free period, although not to the extent that high social support alone can.

Additionally, the interaction between social support and resilience is particularly evident in the data. For individuals with high social support (>28.00), the level of resilience appears less critical in determining relapse periods, as they all relapse after 8-12 months. This suggests that social support can significantly delay relapse regardless of resilience levels. On the other hand, individuals with low social support (≤28.00) are more vulnerable to relapse, especially when resilience is also low (≤12.50), with 68.5% relapsing within 0-4 months. For those with intermediate resilience (>12.50), the relapse timing shifts to the 4-8 month period, demonstrating a moderating effect where resilience helps delay relapse but cannot fully compensate for the lack of social support (Node 3 and Node 4).

Table1. Descriptives of Independent Variables (Social Support and Resilience)

Variables	***N***	***Mean***	***SD***	***Skewness***	***Kurtosis***
Resilience	300	14.100	5.330	0.464	-0.658
Social Support	300	25.070	12.362	1.166	0.409

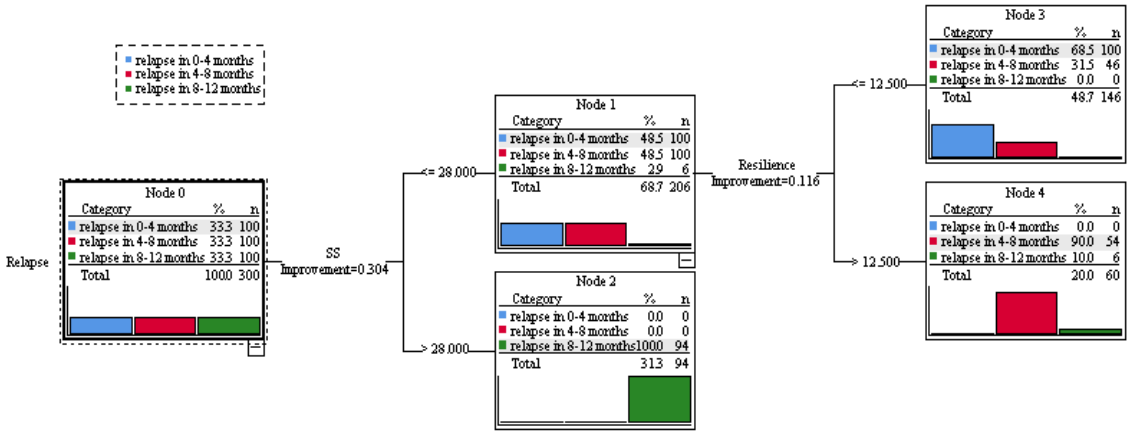

Figure 1. Decision Tree Model

Table 2. Decision Tree Analysis for Influence of Social Support and Resilience on Relapse

Node	*Relapse in 0-4 months*		*Relapse in 4-8 months*		*Relapse in 8-12 months*		*Total*		*Predicted Category*	*Parent Node*	*Primary Independent Variable*		
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*			Variable	Improvement	Split Values
0	100	33.3 %	100	33.3 %	100	33.3 %	300	100 %	Relapse in 0-4 months				
1	100	48.5 %	100	48.5 %	6	2.9 %	206	68.7%	Relapse in 0-4 months	0	SS	.304	<=28.00
2	0	0.0%	0	0.0 %	94	100 %	94	31.3%	Relapse in 8-12 months	0	SS	.304	>28.00
3	100	68.5 %	46	31.5 %	0	0.0%	146	48.7%	Relapse in 0-4 months	1	Resilience	.116	<=12.50
4	0	0.0%	54	90.0 %	6	10.0 %	60	20.0%	Relapse in 4-8 months	1	Resilience	.116	>12.50

Note: *Growing Method: CRT*
Dependent Variable: Relapse
SS: Social support

Discussion

In light of the study's objectives, the association between relapse duration and social support and resilience in individuals with drug use disorders was examined. The CRT decision tree analysis found social support to have the largest impact on the relapse time. Self-restraint was discovered to be another, but significant, protective feature of the present study that helped moderate relapse while low social support. Below there is a detailed discussion of what these discoveries entail and why they are important.

Social Support and its Role in Relapse Timing

For decades now, it has been established that relapse prevention in substance use disorders requires social support. The results of the decision tree analysis of this study showed that social support was the main predictor of the timing of the relapses. Again, in contrast to the lower social support category (SS ≤ 28), most relapses in this group occurred early (0–8 months) but

those in the higher social support group (SS > 28) had a much higher probability of late relapses (8–12 months). This can be on par with prior research underlining the role of social support as the component that helps to sustain abstinence and delay relapse [28], [29]

It may also shield the person from the stressors which lead to relapse since they get information, practical, and emotional assistance. Namely, it is important here to mention that the emotional dimension enhances the feeling of emotional well-being and emotional connectedness, in this way reducing the potential for adopting substance use during times of stress and/or other types of crises [30]. Moreover, instrumental empowerment assistance such as assistance in the acquisition of employment or shelter addresses real life challenges that often precipitate a lapse [31]. Development of sound social support networks is a key strategy within relapse prevention interventions as this research has shown.

Conversely, participants with low levels of social support were found to have shorter periods of relapse, 48.5% of them relapsed within 0-4 months and the other 48.5% within 4-8 months. The social support deficit model, according to which low levels of supportive relationships raise feelings of stress, hopelessness, and isolation, all of which raise the likelihood of relapse reinforces it [30]. The information presented in this study serves as an example of why certain interventions which boost social support are essential for raising the likelihood of an early relapse.

Resilience as a Predictor of Relapse

As for secondary predictors that were established to have a great influence on the period of relapses in those with minimal support, there was resilience. The very early relapse rates were 68.5% for those with low resilience and low social support which is defined as resilience < 12.5 and SS ≤ 28. The high resilience study participants or those with resilience > 12.5 recorded a slight departure from the surge with 90% of the participants relapsing after between 4-8 months with the remaining 10% saying their relapse occurred after between 8-12 months. These results suggest that resilience is a personal resource that can potentially mitigate non-social support and so reduce the chance of relapse.

The capacity to recover from stress, and adapt to adversity is called resilience, and it has been investigated sufficiently in substance use disorders [1], [32]. Entrenched individuals maintain positive emotional outlooks, have better coping strategies, and can regulate emotions more effectively and all of these factors may help them to cope with rehabilitation challenges than in the beginning [7]. This assessment revealed that although increased resilience appeared to delay recurrence when social support was low, building resilience needs to be made a part of the treatment strategy of persons in drug addiction recovery.

Interaction between Social Support and Resilience

This picture also shows the concern of this article, which is the combined effects of resilience and social support. Researchers defined resistance to relapse as important in identifying when the participants with low social support would relapse while the high social support alone was sufficient to delay relapse to the 8-12 month range [17]. Compensatory theory which posits that internal resources possibly enhance functioning, where external resources are lacking, such as social support, is supported by this study [24], [33]. Thus, relapse was not averted completely through resilience; best resilient patients with little or no social support relapsed at 4–8 months underlining the need for a multi-modal approach where both pharmacological and psychosocial treatments are used.

The results of the present study are expected to have several implications on the design and delivery of relapse prevention programs. To begin with, therapies should engage on enhancing exploitable social support to named individuals in a drug addiction recovery. Family intervention, peer support, and organization that encourage social contacts, probably, can be helpful in early relapse prevention. As research has shown, peer-supported rehabilitation

models, give groups a sense of responsibility, which strongly improves outcomes in the long run [27], [29], [34].

Second, treatment plans should alongside include the ways and methods that are likely to enhance resilience. It has been found that CBT, MBSR, as well as resilience training programs are some of the methods, which work to enhance coping processes, affect regulation, and effective problem solving which in turn enhance on resilience [17], [35]. Depending on the amount of social support, the above therapies could be particularly valuable in losing touch with a relapse.

Lastly, this study emphasizes how decision tree models may be useful in therapeutic contexts. By pinpointing important indicators of when relapses occur, medical professionals can categorize patients according to their risk profiles and adjust their treatment plans accordingly. People with low resilience and little social support, for example, might be given priority for intensive, multifaceted interventions, whereas people with more social support might profit from programs that need fewer resources.

Limitations and Future Directions

This study contains some limitations that should be taken into account despite its advantages. First, the results cannot be applied to people who have maintained long-term abstinence because the sample was made up of people who had previously relapsed. Future studies should look into whether the relationships found here apply to a larger group of people in recovery.

Second, the study ignored other potentially significant factors including peer pressure, psychological well-being, and coping mechanisms in favour of concentrating only on social support and resilience. Future research ought to take a more thorough approach, looking at a greater variety of psychosocial factors and how they interact. Finally, the decision tree model does not take into consideration possible causative mechanisms, but it does offer a descriptive explanation of the relationships between variables. To prove causation and guide the creation of more potent therapies, longitudinal studies that monitor alterations in social support, resilience, and relapse outcomes over time are required.

Conclusion

In summary, this study emphasizes how important resilience and social support are in predicting when people in recovery from drug addiction would relapse. The most significant predictor was social support, with higher levels considerably postponing relapse to the 8-12 month range. Even though it was secondary, resilience was a significant moderator, especially for those with little social support. In order to lower the likelihood of recurrence, these results highlight the necessity of multimodal therapies that strengthen internal (resilience) and external (social support) resources. Healthcare professionals and legislators can create focused plans to enhance recovery results and lessen the social cost of drug addiction by utilizing these findings.

Data Availability Statement

The data supporting this study are available from the corresponding author upon reasonable request.

Ethical Approval

The study was performed according to the ethical standards of the Central Drugs Standard Control Organization, India. The study was waived ethical approval from the Institutional Ethics Committee for Human Research of MAMC (ECR/1176/Inst/HR/2019) with permission to collect data from participants was granted by the HOD of Psychiatry at MAMC (Study No. 17401). All participants voluntarily gave informed consent to be enrolled in the study.

Informed Consent

Informed consent was obtained from all the participants involved in this study. Participants were provided with detailed information about the study's purpose, procedures, and benefits before their consent was obtained.

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