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**Predictors of Social Media Support for Drug Addiction Recovery in Malaysia:  
Preliminary mixed-methods findings**

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**Abstract**

This study investigates predictors of social support in drug addiction recovery in Malaysia using a sequential mixed-methods design. Six interviews with recovering addicts, counsellors, and a psychologist revealed six recovery influences: addiction impact, psychological well-being, treatment initiation, self-care, social media, and support networks. Quantitative findings indicated that experiential, emotional, and informational support significantly mediated relationships between social interaction and recovery outcomes. Psychological health and self-care showed inconsistent moderating roles, suggesting weaker individual variability effects. These results offer practical implications for developing socially oriented recovery programs and provide a foundation for further research to validate and extend these findings.

**Keywords:** Social media support; drug addiction recovery; mixed-method

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**1.0 Introduction**

Malaysia has long demonstrated a commitment to tackling drug-related problems through integrated and balanced strategies. However, despite these efforts, treatment and rehabilitation outcomes remain unsatisfactory, with limited evidence of progress. This highlights the urgent need for more effective approaches to support recovery. Social support plays a crucial role in enhancing psychological well-being among recovering addicts (Chronister et al., 2021). Yet, structural barriers such as police surveillance and unemployment have discouraged treatment-seeking, particularly among methadone patients, while also adding to their stress (Ravindran, 2020).

Recovery support can take multiple forms, including emotional, informational, esteem, tangible, and social integration support. Individuals with strong connections to family, friends, or peers often achieve better recovery outcomes (Xu et al., 2020). However, limited research has examined the role of online social support in Malaysia, as most studies focus on conventional rehabilitation programmes (National Anti-Drugs Agency, 2020; Ravindran, 2020). Evidence suggests that psychological care—whether provided through counselling or digital means—strengthens recovery and reduces relapse risks (Ahmad et al., 2021). Social media platforms, in particular, enable co-creation, social learning, and relationship-building, offering emotional, informational, and experiential support. This study therefore seeks to establish a conceptual framework for predictors of online social support in facilitating recovery within the Malaysian context.

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## 2.0 Literature Review

### 2.1 Theoretical Underpinning

The social support theory posits the “perceived or actual instrumental and/or expressive provision supplied by the community, social networks, and confiding partners” (Kort-Butler, 2018). The theory delineates the function of interpersonal relationships, providing emotional, informational, and/or instrumental support that can help individuals cope with stress, challenges, and uncertainty. Additionally, social health determinants, especially social support, are significant predictors of health and behavioural outcomes at both population and individual levels (Kort-Butler, 2018). The theory postulates that psychological and physical health are significantly influenced by social support and other factors, including stress, socioeconomic status, and mental health.

### 2.2 Social Media Technological Affordance

Social media affordance describes the designed functions of social media that facilitate user interaction, engagement, information sharing, and collaboration (Ronzhyn, Cardenal, & Battle Rubio, 2023). Social media affordances allow for knowledge co-creation on specific topics, enabling users to interact and contribute ideas, comments, and experiences for communal benefits. The perspective is an extension of the concept from a socio-material approach that would typically be examined based on relevant applicability and effects (Ronzhyn et al., 2023). Bergman and Kelly (2021) elucidated that the combined effect of social learning and online social support significantly and positively influenced drug recovery treatment through a network of individuals seeking recovery, such as other drug addicts and friends, to promote engagement and recovery. The results postulated that online recovery support services could improve the availability and the number of individuals with access to recovery support resources, especially drug addicts who experienced significant barriers due to living in remote locations or possessing a disability.

### 2.3 Online Social Support

Social support has been widely acknowledged as a crucial factor in promoting inclusion, belonging, and emotional security for individuals undergoing treatment for drug addiction (Horvath et al., 2013). With the rapid expansion of digital platforms, this support has moved beyond physical spaces into virtual environments, where online groups, mental health-related content, and web-based services offer valuable resources for those in recovery. Online recovery communities provide an alternative or complementary avenue for individuals who find disclosure challenging due to stigma, allowing them to seek information and encouragement without fear of judgment (Dilkes-Frayne et al., 2019).

A major advantage of these networks is their ability to overcome geographical barriers, offering convenience for individuals with limited mobility, time, or resources (Lawlor & Kirakowski, 2014). Social media's accessibility has also transformed health communication by delivering cost-effective, personalised content and peer support to distant users. Information and communication technology (ICT) tools such as forums and message boards enable the exchange of knowledge, coping strategies, and experiences relating to both physical and mental health (Westerman et al., 2014).

Although the application of online support in drug treatment is still emerging, early evidence points to its effectiveness. Ashford et al. (2019) suggested that mobile-based support groups could prevent relapse, while other studies highlighted the potential of integrating digital platforms and social networking technologies into addiction treatment and relapse prevention strategies.

### 2.4 Relationship between Technological Affordances and Online Social Support for Drug Recovery

Advancements in digital technology have expanded opportunities to assist individuals in addiction recovery by offering features such as instant messaging, group communication, and pseudonymity. These affordances enable people to interact virtually without fear of stigma, fostering inclusion, belonging, and support—factors essential to sustaining recovery (Bergman & Kelly, 2021). Such accessibility broadens the reach of recovery services, particularly for those facing barriers in traditional settings.

Liu et al. (2020) highlighted the role of digital platforms in promoting social learning, where individuals can observe, model, and adopt positive recovery behaviours. Online environments provide spaces for sharing personal experiences, seeking advice, and drawing encouragement from others facing similar struggles. This process builds belonging, reduces isolation, and enhances engagement in recovery activities. Virtual groups, forums, and social networks further reinforce these connections, equipping individuals with coping skills to navigate relapse triggers and strengthen recovery outcomes (Gual-Montolio et al., 2020; Liu et al., 2020).

The cumulative effect of such interactions includes greater personal control, enhanced coping abilities, improved social ties, and reduced loneliness. For instance, one participant in this study described how accountability was reinforced through sharing updates on self-care practices, such as exercising or attending therapy, with peers online. This illustrates how digital platforms cultivate accountability while addressing emotional needs during recovery.

Both online and offline support networks have consistently been associated with improved recovery outcomes. Research shows that digital connections amplify recovery by fostering peer interactions, accountability, and resilience (Gilmour et al., 2020; Anderson et al., 2021). Grussling (2021) noted that meaningful interactions also reduce isolation and support mental health, while Liu et al. (2020) emphasized the importance of interpersonal bonds in restoring a sense of life purpose—vital for long-term recovery.

Community co-creation has also emerged as a valuable aspect of digital recovery platforms. Sliep et al. (2023) found that individuals actively involved in shaping their online communities reported stronger belonging, higher support, and greater self-efficacy. Such collaboration reduces detachment and provides deeper meaning to the recovery process. Integrated recovery programmes that combine conventional treatment with online peer networks can therefore enhance responsibility, continuity, and quality of life (Park et al., 2023).

Digital tools further address psychological needs by offering shared experiences, recognition, and validation, which play important roles in relapse prevention (Torous et al., 2021). Emotional support and positive reinforcement within these communities promote resilience, enhance self-esteem, and foster long-term recovery. Based on these insights, the following hypotheses are proposed:

H1: Social media technological affordances significantly influence Drug Recovery.

H2: Online Social Support significantly influences Drug Recovery.

### 3.0 Method

The current study used a quantitative approach for the empirical data collection and analysis. A survey was conducted with a cross-sectional design to collect the data (Hair et al., 2019). The choice of sample size was based on the requirement for performing an exploratory and confirmatory factor analysis. Prior scholars recommended a sample size between 200 and 400, which is considered appropriate, especially for conducting statistical analysis (Hair et al., 2019). Nonetheless, this study collected approximately 500 samples for both exploratory and confirmatory analysis to avoid potential complications related to data analysis owing to a small sample size.

### 4.0 Data Analysis Procedure

The data analysis procedure was conducted in alignment with the proposed conceptual framework, which specifies drug recovery as the endogenous (outcome) construct, predicted by social media technological affordances and online social support. Partial least squares structural equation modelling (PLS-SEM) was employed using a two-stage analytical approach, namely measurement model assessment and structural model evaluation, to explicitly test predictor–outcome relationships (Hair et al., 2019).

Prior to model estimation, preliminary data screening was conducted. Box plots and Z-scores were used to detect univariate outliers, and no extreme values or missing data were identified. This ensured that the dataset was suitable for subsequent multivariate analysis. The measurement model was first evaluated to confirm that all latent constructs—including Drug Recovery (outcome), Online Social Support, and Social Media Technological Affordance (predictors)—were measured reliably and validly before testing hypothesized relationships. Internal consistency reliability was assessed using Cronbach's alpha and composite reliability (CR). All constructs exceeded the recommended threshold of 0.70, indicating satisfactory reliability.

Convergent validity was examined using average variance extracted (AVE), with all constructs demonstrating AVE values above 0.50, confirming that the indicators adequately represented their respective constructs. Factor loadings for all items exceeded the minimum threshold of 0.60, supporting indicator reliability. These results confirm that the Drug Recovery construct was statistically robust and appropriate for use as the primary outcome variable in the structural model.

Table 1. Reliability and Convergent Validity

Construct	Item	Loading	Cronbach's Alpha	CR	AVE
Drug Recovery	DR1	0.794	0.954	0.960	0.666
	DR2	0.841			
	DR3	0.784			
	DR4	0.831			
	DR5	0.791			
	DR6	0.834			
	DR7	0.832			
	DR8	0.854			
	DR9	0.790			
	DR10	0.834			
	DR11	0.768			
	DR12	0.834			
Online Social Support	EMS1	0.802	0.849	0.898	0.688
	EMS2	0.796			
	EMS3	0.860			
	EMS4	0.858			
	EXS1	0.857	0.841	0.894	0.678
	EXS2	0.770			
	EXS3	0.800			
	EXS4	0.863			
	IS1	0.870	0.924	0.941	0.726
	IS2	0.872			
	IS3	0.823			
	IS4	0.901			
	IS5	0.854			
	IS6	0.790			
	SL2	0.863			
	SL3	0.864			

<b>Social Media Affordance</b>	<b>SL4</b>	0.936	0.883	0.911	0.632
	<b>SRL1</b>	0.806			
	<b>SRL2</b>	0.779			
	<b>SRL3</b>	0.721			
	<b>SRL4</b>	0.829			
	<b>SRL5</b>	0.807			
	<b>SRL6</b>	0.821			

Notes: AVE= Average Variance Extract; CR= Composite Reliability.

Discriminant validity was assessed using the Fornell–Larcker criterion. The square root of the AVE (see table. 2) for each construct exceeded its correlations with other constructs, indicating that drug recovery was empirically distinct from its predictors. This distinction is essential to demonstrate that the model does not merely assess predictors, but evaluates their influence on a clearly defined outcome.

Table 2. Discriminant Validity

	<b>DR</b>	<b>EMS</b>	<b>EXS</b>	<b>IS</b>	<b>PSH</b>	<b>SL</b>	<b>SRL</b>
<b>DR</b>	0.816						
<b>EMS</b>	0.687	0.829					
<b>EXS</b>	0.687	0.643	0.823				
<b>IS</b>	0.711	0.636	0.621	0.852			
<b>SL</b>	0.458	0.337	0.386	0.378	0.016	0.890	
<b>SRL</b>	0.501	0.458	0.519	0.552	- 0.172	0.282	0.280

The structural model or inner model is formulated to represent the relationships between the constructs. Evaluating the inner model allowed the researcher to appraise the strength and direction of the relationships, which were crucial to understanding the validity of the proposed research model and theoretical framework. Path analysis is used to pinpoint the direct and indirect effects of the constructs in the structural model (Hair et al., 2019). The results shown in Table 3 reveal that Online Social Support has a positive and statistically significant effect on Drug Recovery ( $\beta = 0.289$ ,  $t = 5.142$ ,  $p = 0.000$ ). Online Social Support ( $\beta = 0.289$ ) exerts a stronger influence compared to Social Media Affordance ( $\beta = 0.182$ ). Social Media Affordance also demonstrates a positive and significant impact on Drug Recovery (DR) ( $\beta = 0.182$ ,  $t = 3.349$ ,  $p = 0.001$ ).

Table 3. Path Analysis: Direct Effects

<b>Path</b>	<b>Beta</b>	<b>T-Statistics</b>	<b>P-Value</b>	<b>Decision</b>
<b>Online Social Support <math>\rightarrow</math> DR</b>	0.289	5.142	0.000	Supported
<b>Social Media Affordance <math>\rightarrow</math> DR</b>	0.182	3.349	0.001	Supported

## 5.0 Discussion

Technology has become an essential component of addiction recovery, offering features such as group messaging, instant communication, and pseudonymity. These affordances allow individuals to connect virtually, interact without stigma, and form meaningful relationships. Such interactions encourage social learning, mutual support, and relationship-building, ensuring that recovering individuals receive ongoing guidance and resources. Findings from this study revealed that technological affordances were closely associated with the extent of online social support received, supporting the research hypothesis. Consistent with earlier research, digital tools that enable peer engagement and community-building significantly contributed to recovery outcomes. Bergman and Kelly (2021) noted that integrating social learning with online support improved treatment engagement and outcomes through peer and friendship networks.

Online platforms are particularly valuable for individuals in rural areas or those facing mobility barriers, as they expand access to recovery resources. Liu et al. (2020) highlighted that digital spaces facilitate behaviour modelling, enabling participants to share experiences, seek advice, and learn from others with similar challenges. Online health communities nurture a sense of belonging and acceptance, which is critical to sustained participation in recovery. Such connections reduce feelings of isolation and enhance motivation. Digital communication tools—including forums and social networks—further help individuals feel less alone during recovery (Gual-Montolio et al., 2020).

Research also indicates that observing peers online strengthens resilience and prepares individuals to handle relapse triggers effectively (Liu et al., 2020). Benefits include greater coping capacity, stronger social ties, and reduced isolation. For instance, one participant described how accountability was reinforced through sharing self-care updates like exercise and therapy attendance with peers. This highlights how structured online engagement can improve well-being and recovery (Gutierrez et al., 2020).

A wide body of literature confirms the importance of social connections for recovery. Online networks enhance interpersonal interaction, accountability, and sobriety maintenance (Gilmour et al., 2020; Anderson et al., 2021). Grussling (2021) further reported that positive interactions reduced loneliness and supported mental health. Social support functions not only as assistance but also as reciprocal exchange, creating a sense of responsibility and ownership in recovery (Sthapit et al., 2024).

Additionally, community co-creation fosters belonging, self-efficacy, and resilience. Sliep et al. (2023) emphasised that engaging in online communities reduces feelings of alienation and offers safe spaces for emotional expression. Emotional support, in particular,

plays a central role. As Krentzman et al. (2023) observed, empathy and encouragement alleviate isolation, reduce psychological distress, and strengthen long-term recovery by improving self-confidence and emotional well-being.

## 6.0 Study Implications

The current study expanded social support theory by suggesting that the digital environment serves as an alternative support source. While earlier frameworks largely focused on interpersonal and physical communication, this study highlighted social media as one of the most conducive environments for recovery support. Although formal communication remains necessary in certain social interactions, it is equally important to embrace evolving and changing communication models in line with digital trends. The findings provide a deeper understanding of how digital social networks can be employed to support individuals in recovery of drug addiction. By examining key predictors of strong social support in online networks, this study contributes to knowledge about the dynamics and functioning of such systems and underscores the need for culturally centred approaches in addiction recovery initiatives. Malaysian social and cultural factors were found to significantly shape the recovery process, suggesting that identifying relevant cultural elements could improve the effectiveness of interventions. Moreover, policy measures should address ethical and privacy concerns in using social media for health support, particularly safeguarding personal identities and information of recovering drug addicts on platforms such as Facebook through strict privacy and ethical standards. These measures could also enhance public awareness of the value of online support and foster a more positive community perception of individuals in recovery. In addition, governments should establish clear ethical regulations for online platforms, ensuring user information protection, anonymity, and proper moderation. Targeted social media campaigns may further encourage recovering addicts to use digital platforms for behavioural change and community-based support.

## 7.0 Limitations of the Study

This study examined social media usage among Malaysian drug addicts in their recovery journey, but several limitations must be acknowledged. The focus on Malaysia limits the generalisability of findings to other contexts, and future research should extend to regions with varying levels of technological exposure, particularly where access is limited. Additional variables such as digital literacy, language fluency, translation support, and family influence should also be considered to capture broader perspectives, including gender and age differences. The possibility of social desirability bias further highlights the need for future studies to incorporate distinctive predictors, such as patterns of digital behaviour, including posting frequency and engagement levels. Moreover, the cross-sectional design restricted causal inferences, and longitudinal approaches would provide more accurate insights into the long-term impacts of social media use on recovery. The reliance on convenience sampling also limits representativeness, suggesting that larger and more diverse samples across age, gender, socioeconomic status, and addiction severity are required to improve reliability and generalisability. Future research should also examine how social media support can assist individuals with co-morbidities, tailoring responses to unique needs and enhancing recovery outcomes. Additionally, the tools used to measure social support and recovery may have limitations in validity and reliability, warranting refinement. Longitudinal and cross-cultural studies could further validate causal relationships and provide a more comprehensive understanding of online support systems across diverse settings, deepening insights into the effectiveness of social media in addiction recovery.

## 8.0 Conclusion

The present study aims to develop a conceptual framework for the predictors of adopting online social support to manage drug addiction recovery in the Malaysian context. A key contribution was bridging the existing literature gap between traditional recovery practices and modern technological interventions, which provided a robust foundation for integrating digital tools into existing recovery frameworks to guarantee that support systems could be more accessible, scalable, and efficient, especially in rural regions with limited access to physical counselling sessions and support services. The study implications extended beyond addiction recovery by contributing valuable insights into leveraging SM in other healthcare domains. The continuous evolution of the digital landscape necessitates more relevant approaches to provide larger benefits for the healthcare sector by prioritising innovation, inclusivity, and ethical practices, which can guarantee that digital tools not only complement traditional recovery frameworks but also lead to more positive outcomes for individuals, families, and communities worldwide. The commitment to progress underscores the broader vision of harnessing technology to develop a healthier and more connected society.

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