Review Journal of Social Psychology & Social Works
http://socialworksreview.com

ISSN-E: 3006-4724
ISSN-P: 3006-4716

Volume: 3
Issue: 2 (April - June, 2025)

Readiness to Change as a Predictor of Mental Health and Subjective Well-Being among Patients Diagnosed with Substance Use Disorders

Dr. Anila Sadaf Mubashir[1], Rida Kainaat[2], Amna Basit[3]

1. Assistant Professor, Department of Applied Psychology, National University of Modern Languages Rawalpindi, Pakistan. Email: anilasadaf@numl.edu.pk
2. Lecturer, Department of Applied Psychology, National University of Modern Languages Rawalpindi, Pakistan. Email: rida.kainaat@numl.edu.pk
3. Research Scholar, Department of Applied Psychology, National University of Modern Languages Rawalpindi, Pakistan.

DOI: https://doi.org/10.71145/rjsp.v3i2.2412

Abstract

Readiness for change plays crucial role in individual life to switch or change their problematic behaviors to their desirable behaviors. Especially in the case of drug addiction the readiness to change of any individual is an essential component that leads toward change. The purpose of this study is to find out the impact of readiness to change on mental health and subjective wellbeing in patients diagnosed with substance use disorder. The nature of this study is quantitative by using purposive sampling technique. The study consisted of 200 participants with substance abuse. By using SPSS software person correlation and linear regression analysis was utilized to check the relationship and impact between studied variables. The findings indicated that there is positive relationship present between study variables. Further, it indicated that there is a strong impact of readiness to change with other variables i.e., depression, satisfaction with life and subjective happiness. This study emphasized to investigate the significant impact of readiness to change on mental health and subjective wellbeing in patients of substance use disorder. The Data is collected from different rehabilitation centers of twin cities (Rawalpindi and Islamabad). The study highlighted the importance and the effectiveness of use readiness to change model it will help in better understanding of any individual's stage of change and the presences of readiness to change promotes better mental health and subjective wellbeing in patients diagnosed with substance use disorder.

***Keywords*:** Readiness to Change, Mental-Health, Subjective Wellbeing, Substance Use Disorders

Introduction

Substance Use Disorders (SUDs) are complex and chronic conditions that significantly impact an individual's psychological, physical, and social functioning (American Psychiatric Association [APA], 2013). Despite the availability of treatment modalities, relapse and treatment resistance remain prevalent concerns, often linked to a patient's motivational state and psychological readiness to engage in behavior change (DiClemente, 2018). It is especially important to understand mental factors that help recovery in areas where people have limited access to help and must stick to treatment plans. In 1983, in their Transtheoretical Model (TTM)

of Change, Prochaska and DiClemente made "readiness to change" a main feature of modifying behavior. The model explains that people shift through five steps known as precontemplation, contemplation, preparation, action and maintenance as they try to better their behavior. The importance of readiness to change is widely recognized in predicting good engagement, holding to rules and positive results during treatment for addiction (DiClemente et al., 2004).

Over the past few years, people have become more interested in how factors that influence readiness to change such as motivation, can affect not only treatment involvement but also mental health and well-being. Mental health addresses a person's feelings, thoughts and relationships, whereas SWB tells us about how happy and satisfied a person feels with their life (Diener, 2000). Many individuals with SUDs experience both poor mental well-being and low happiness which makes it more difficult for them to recover (Volkow et al., 2016). By examining how ready a person is for change, we can gain new ideas for improving strategies. In this paper, the study looks at how a person's readiness to change their habits affects both mental health and feelings of well-being in people with SUDs. Its main goal is to link psychological readiness with recovery outcomes, contributing important information for both clinicians and policy makers. Being ready to change is now considered a crucial step in addiction recovery. Originating from the TTM, the concept acknowledges that individuals vary in their motivation and preparedness to alter their substance use behavior (Prochaska & DiClemente, 1983). Research consistently shows that individuals in the advanced stages of change (action or maintenance) exhibit higher treatment compliance and lower relapse rates (Heather & Hönekopp, 2008). Moreover, interventions such as Motivational Interviewing (MI) explicitly target readiness to enhance the efficacy of treatment outcomes (Miller & Rollnick, 2013). Several studies have validated the predictive power of readiness to change in diverse clinical populations. For instance, Joe et al. (1998) found that higher readiness scores at intake were significantly associated with improved engagement and retention in drug treatment programs. In a more recent meta-analysis, Norcross et al. (2011) confirmed that motivational readiness strongly correlates with both the initiation and maintenance of behavior change across various substance-related disorders. Both substance use problems and mental health disorders can be present together and tend to worsen each other's outcome in patients (Kelly & Daley, 2013). Co-existing depression, anxiety and trauma in those with SUDs hinder effective treatment and successful recovery (Marel et al., 2019). When people have mental health conditions along with substance use problems, they interact less with treatment and experience poorer quality of life (Kelly, 2012).

Recent research shows that psychological readiness is important in affecting mental health results. Study results by Amodeo et al. (2008) indicated that clients who were more prepared to make changes had less depression in the following period. People who are ready to change often experience a drop in psychological distress before and after their addiction treatment (Burrow-Sanchez & Lundberg, 2007). This indicates that raising patients' motivation helps protect them from poor mental health results in SUDs. Besides stopping substance use, how good someone feels in mind and body is an important sign of effective recovery (Diener et al., 2003). People with SUDs frequently say their SWB is low because of the stigma, social isolation and lessened ability to tackle their issues (Laudet, 2011). Even so, SWB increases as a person stops using drugs and engages in psychosocial treatment (Tucker et al., 2009). Although the connection is not well studied, there could be many benefits in exploring it. Feeling prepared may help individuals sense they control their own lives which plays a big role in raising satisfaction in the future (Zemore & Kaskutas, 2009). According to Laudet and White (2010), people starting the study with a strong will to change performed better in terms of well-being and quality of life after 12 months. Researchers have found that joining motivational models with psychological outcome models implies readiness to change can play a role in change or recovery. According to DiClemente (2018), being ready for change is important, but it's also key in guiding a

person's thoughts, feelings and way of achieving goals. Hence, readiness may not only predict treatment initiation but also influence how patients adapt emotionally and psychologically post-treatment.

Although previous literature affirms the utility of readiness to change in predicting treatment-related behaviors, its association with post-treatment psychological outcomes like mental health and SWB remains under-researched, particularly in non-Western populations. Exploring this relationship may help clinicians develop holistic and culturally responsive interventions that promote not only abstinence but also emotional and life satisfaction outcomes.

Methods

Objective

- To find out the impact of readiness to change on mental health and subjective wellbeing in patients with substance use disorders.

Hypotheses

- There is a significant relationship between readiness to change, mental health and subjective wellbeing among patients with substance use disorders.
- Readiness to change significantly predicts mental health among patients diagnosed with substance use disorders.
- Readiness to change significantly predicts subjective wellbeing among patients with substance use disorders.

Research Design

Quantitative research design was used to investigate the predictive relationship of readiness to change with mental health and subjective wellbeing in patients with substance use disorders.

Sample

Total 200 participants were selected using purposive sampling technique. The participants were chosen between the age range of 19-60 years. The participants selected from different rehabilitation centers of twin cities of Pakistan.

Inclusion criteria

- Adults within the age range of 19-60 years was selected.
- Individuals diagnosed with substance use disorders was selected from different rehabilitation centers.

Exclusion criteria

- Under the age 19 or above the 60 years age participant did not include in the study.
- Individual diagnosed with psychotic disorders did not include.

Instruments

Readiness to Change Scale

Readiness to change scale (Rollnick et al., 1992b) The 12-item questionnaire that measures respondents' preparedness for change uses a five-point likert scale and was created using a trans-theoretical approach. There are six phases involved, and each one explains and predicts a person's readiness for change. At each stage (Pre-contemplation = 0.73; Contemplation = 0.80; Action = 0.85), the alpha range is good.

Siddiqui Shah Depression Scale

Siddiqui shah depression scale (Siddiqui & Shah, 1997) The Siddiqui shah depression scale (SSDS) is aiming to measure and evaluate depression in Pakistani people. The scale is based on

how depression is interpreted in different cultures (Ranjha, 2021). This scale has 36 items, 4 points Likert rating and having good reliability of 0.89 (Siddiqui & Shah, 1997).

Satisfaction with Life Scale

Satisfaction with life scale (Diener et al., 1985c) Satisfaction with life scale (SWLS) is a tool that assesses overall life satisfaction as opposed to domain-specific measures like happiness or sadness. It is 5-item tool with 1-7 points Likert scale developed by Diener, Emmons, Larsen & Gryphon in the United States (Looti, 2022) and having good and consistent reliability 0.87 (Gillen, 2009c).

Subjective Happiness Scale

Subjective Happiness Scale (Lyubomirsky & Lepper, 1999) Subjective happiness is measured using a 4-item, 7-point Likert scale. The subjective happiness scale has a scoring range of 1.0 to 7.0. A higher range will indicate a happier state of mind. This scale's alpha ranges from 0.79 to 0.94, indicating great internal consistency.

Mental Health Inventory

Mental health Inventory (MHI; Veit & Ware, 1983) The 38-item Mental Health Inventory is a measure of psychological discomfort and well-being it is designed to use in general populations. Internal consistency of this scale is between the .83 to .91 and the range of the stability coefficients is from.56 to.64.

Procedure

After getting permission from the rehabilitation centers for data collection. Participants were then briefed about the research study. Participants' informed consent was obtained. Following the acquisition of informed consent, the questionnaires was given or explain in an easy or understandable Urdu language. The data was collected by the patients diagnosed with substance use disorder (SUD's) from different addiction treatment and rehabilitation centers of twin cities (Islamabad, Rawalpindi) using selected questionnaires. Additionally, the patients' responses scored and subjected to various analyses utilizing SPSS.

Data Analysis

Data was analyzed using the SPSS by operating correlation and linear regression analysis to find the predictive relationship between studied variables.

Ethical consideration

While conducting research following ethical considerations were taken into account. Informed consent, avoidance of deception until unless its needed, participant have right to withdraw from the study anytime he/she wants, confidentiality of the data was ensured.

Results

This study aimed to identify the readiness to change as a predictor of mental health and subjective wellbeing among the patients with substance use disorder. It is based on two parts descriptive statistics and psychometric properties. First section includes descriptive statistics and psychometric properties and second section involves the hypotheses testing by using different statistical analysis.

Descriptive Statistics and Psychometric Properties

Descriptive statistics and psychometric properties section involve the in-depth measures of readiness to change scale, mental health inventory, Siddiqui Shah depression scale, subjective happiness scale, satisfaction with life scale and the studies demographic of this research.

Table 1 Showing Descriptive Statistics

Mean, Standard Deviation, Range, and Cronbach's Alpha Reliability of readiness to change, mental health inventory, siddiqui shah depression scale, subjective happiness scale and satisfaction with life scale (N= 200)

Variables	*n*	*m*	*SD*	Range	α
RTC	200	3.95	3.95	23	.70
SSDS	200	36.71	20.36	95	.92
SHS	200	19.31	5.42	24	.75
SWL	200	30.30	2.98	24	.72
MHI	200	116.01	24.02	115	.83

Note: *=RTC= Readiness to Change Scale, SSDS= Siddiqui Shah Depression Scale, SHS= Subjective Happiness Scale, SWL=Satisfaction with Life scale, MHI= Mental Health Inventory, N = Total Number of Participants; M = Mean; SD = Standard Deviation; α= alpha reliability.*

Table 1, show data mean, standard deviation, and normality are displayed in the table. The outcome reveals a slight deviation of the data from its mean. The range, which is 23, 95, 24, 24, and 115, respectively, has also been examined. The readiness to change scale reliability is .70, indicating accept able reliability. On the other hand, the best high reliability was shown by the reliability of Siddiqui shah depression scale at.92, subjective happinesses scale .75, satisfaction with life .72 and mental health inventory at.83.

Table 2 *Socio-Demographic Variables of Study Participants (N= 200).*

Variables	*n*	*%*
Gender		
Male	200	100
Age		
19-60	200	100
Qualification		
Illiterate	20	10
Matric	99	49.5
Intermediate	59	29.5
Graduation	19	9.5
Masters	3	1.5
Types of Drugs		
Depressants	60	30.0
Hallucinogens	16	8.0
Stimulants	63	31.5
Poly drugs	61	30.5

Note: *% = percentage. N= total number of participants*

The frequency and percentages of the demographic factors are displayed in the table. There are 200 participants in the study, all of them were men (100%). In addition, the participants' ages were categorized in one group. Furthermore, qualification of individuals were categorized into four clusters and most of the individuals are from second (matric 49.5%) and third cluster (Intermediate 29.5%). Type of drugs is one of my sociodemographic variables. As per the table indicates the drugs are divided into four categories and the high rating of used drugs are stimulants (31.5%), depressants (30.0%) and poly drugs (30.5%).

Table 3 *Pearson Correlation between Study Variables (N=200)*

Variables	1	2	3	4	5
1. RCT	-				
2. SSDST	.45**	-			
3. SWLT	.45**	-.67**	-		
4. MHIT	.38**	-.80**	.59**	-	
5. SHST	.44**	-.59**	.76**	.35**	-

Note: *RCT=readiness to change questionnaire, SSDST: Siddiqui shah depression scale total, SWLT: satisfaction with life scale, MHIT= Mental Health Inventory: SHST: subjective happiness scale total.*

Table 3 describes inter-correlations among scales. The study incorporates mental health inventory, subjective well-being, Satisfaction with life, Subjective happiness, Depression and Readiness to change. Results suggest that Readiness to change has significantly positive correlated with Depression (r =.45, p < .01), Satisfaction with Life Scale (r =.45, p < .01), Mental Health inventory (r =.38, p < .01) and Subjective Happiness scale (r =.44, p < .01. Depression Scale is significantly negative correlated with Satisfaction with Life Scale (r =-.67, p < .01) and Mental health inventory (r =-.80, p < .01) and the Subjective Happiness scale (r =.59, p < .01). Satisfaction with life scale is significantly positively correlated with the Mental health inventory scale (r =.59, p < .01) and the Subjective Happiness scale (r =.76, p < .01) showing a strong relationship. Mental health inventory correlates positively with the Subjective Happiness scale (r =.35, p < .01).

Table 4 *Regression using Readiness to change as a predictor of Depression (N=200)*

Predictor	ΔR^2	β	*p*	df	F
Outcome: Depression					
RTC	.20	1.73	.00	199	51.18

Note: B= unstandardized beta; p= significance level; df= degree of freedom

Table 4 shows Regression analysis computed with Readiness to change as predictor variables and Depression as an outcome variable. The ΔR^2 value of .20 indicates that 20% variance in the dependent variable can be accounted for, by the predictors with F (1, 199) = 51.18, p < .001. The findings indicate that Readiness to Change (β = .20, p > .001), have a significant on predicts depression among patients with substance use disorders.

Table 5 *Regression using Readiness to change as a predictor of Satisfaction with life (N=200)*

Predictor	**ΔR^2**	**β**	***p***	**df**	**F**
Outcome: Satisfaction with life					
RTC	.20	.45	.00	199	52.37

Note: B= unstandardized beta; p= significance level; df= degree of freedom

Table 5 shows Regression analysis computed with Readiness to change predictor variables and Satisfaction with Life as an outcome variable. The ΔR^2 value of .20 indicates that 20% variance in the dependent variable can be accounted for, by the predictors with F (1, 199) = 52.37, p <

.001. The findings indicate that Readiness to Change (β = .45, p > .001), have a significant on predicts Satisfaction with Life among patients diagnosed with substance use disorders.

Table 6 *Regression using Readiness to change as a predictor of Mental Health(N=200)*

Predictor	ΔR^2	β	*p*	df	F
Outcome: Mental health inventory					
RTC	.14	2.13	.00	199	32.49

Note: B= unstandardized beta; p= significance level; df= degree of freedom

Table 6 shows Regression analysis computed with Readiness to change predictor variables and Mental health inventory as an outcome variable. The ΔR^2 value of .14 indicates that 14% variance in the dependent variable can be accounted for, by the predictors with F (1, 199) = 32.49, p < .001. The findings indicate that Readiness to Change (β = .14, p > .001), have a significant positive effect on Mental health inventory.

Table 7 *Regression using Readiness to change as a predictor of Subjective Happiness (N=200)*

Predictor	ΔR^2	β	*p*	*df*	*f*
Outcome: Subjective Happiness Scale					
RTC	.20	.45	.00	199	52.37***

Note: *B= unstandardized beta; p= significance level; df= degree of freedom*

Table 7 shows Regression analysis computed with as readiness to change predictor variables and subjective happiness scale as an outcome variable. The ΔR^2 value of .20 indicates that 20% variance in the dependent variable can be accounted for, by the predictors with F (1, 199) = 52.37, p < .001. The findings indicate that Readiness to Change (β = .45, p > .001), have a significant on predicts Subjective Happiness among patients with substance use disorders.

Discussion

The present study investigated the predictive role of readiness to change on mental health and subjective well-being (SWB) in individuals diagnosed with Substance Use Disorders (SUDs). The findings contribute to a growing body of evidence highlighting motivation as a pivotal factor in recovery from addiction. Specifically, results indicate that individuals with higher levels of readiness to change report significantly better mental health outcomes and greater subjective well-being. These findings have significant implications for both clinical practice and the design of treatment interventions.

The results align with the Transtheoretical Model of Change (Prochaska & DiClemente, 1983), which posits that individuals must progress through distinct stages of readiness before achieving sustainable behavioral change. Those who moved forward to the higher phases of treatment said their depression and anxiety got better. This outcome matches earlier research by Amodeo et al. (2008) and Burrow-Sanchez and Lundberg (2007) which connected more motivation at the outset with better psychological results later.

Also, how prepared individuals are to change played an important role in predicting their subjective well-being. It indicates that motivation helps both the return of normal behavior and a better psychological state. It is consistent with what Laudet and White (2010) found that

people driven to change usually show more optimism, have a stronger purpose and greater self-confidence and these things make up subjective well-being (Diener et al., 2003). When motivation supports well-being, people in recovery often find that focusing on their mental growth can help them stay sober. According to theory, this research highlights the need to add motivational factors to biopsychosocial models of addiction. According to this research, while traditional approaches focused on medicine and behavior, psychological preparation matters both before and when someone is recovering (DiClemente, 2018). Readiness determines the way patients experience treatment, follow the process and understand any failures during the process. This means that it's important to assess a person's readiness to change from the first session and repeatedly during therapy. If therapists tailor the approach based on the client's motivation, the chances of a good result improve (Miller & Rollnick, 2013). Also, helping clients become ready can boost abstinence rates, enhance their mental health and make them happier with their lives. Through the findings, ways can be found to add positive psychology tools to conventional addiction programs. Getting patients to choose personally important goals, notice their strengths and find activities they look forward to can support their desire to improve health and faith. For example, ACT uses techniques based on behavior and personal values that can make motivation and psychological health easier to improve (Hayes et al., 2012).

Because the majority of existing studies on readiness to change were conducted in the West, this research incorporates and explains these dynamics in another population. In collectivistic societies, such as those found in South Asia, motivational processes are likely influenced by familial obligations, community expectations, and cultural stigma surrounding addiction (Kermode et al., 2009). Understanding how these contextual factors interact with personal readiness to change can inform culturally sensitive interventions that engage family and community systems to support recovery. Furthermore, addressing the stigma associated with SUDs is essential. Higher readiness may be a reflection not only of personal motivation but also of a supportive environment that enables disclosure, help-seeking, and acceptance (Livingston et al., 2012). Integrating community-based awareness campaigns and family-focused interventions can reduce stigma and enhance the social support that fuels motivation and well-being.

Limitations

Despite its contributions, the study has several limitations. First, the cross-sectional design limits causal interpretations. While readiness to change appears to predict mental health and well-being, it is equally plausible that individuals with better mental health are more motivated to change. Longitudinal studies are needed to establish temporal relationships and causal pathways.

Second, the reliance on self-report measures introduces the possibility of social desirability bias, especially in populations with heightened stigma around substance use and mental health. Future studies could incorporate clinician-rated assessments or objective behavioral indicators of readiness and well-being.

Third, the sample may not be representative of all individuals with SUDs, particularly those not currently seeking treatment or those from diverse cultural or socioeconomic backgrounds. Broader recruitment strategies and stratified analyses are needed to understand how readiness functions across different subpopulations.

Future Directions

Future research should consider longitudinal methodologies to examine how fluctuations in readiness influence psychological outcomes across the recovery trajectory. Intervention studies could test the effectiveness of motivational enhancement strategies in improving both clinical and subjective outcomes. Additionally, qualitative investigations may reveal deeper insights into how patients conceptualize readiness, particularly in non-Western cultures. It would also be worthwhile to explore the mediating and moderating factors that shape the relationship between readiness and well-being. Variables such as social support, self-efficacy, treatment adherence, and spirituality may influence this relationship and could be integrated into comprehensive models of addiction recovery.

Conclusion

In conclusion, the present study highlights readiness to change as a meaningful predictor of both mental health and subjective well-being among individuals with Substance Use Disorders. These findings emphasize the importance of incorporating motivational assessments and interventions into addiction treatment. A greater focus on readiness not only supports behavioral recovery but may also contribute to psychological resilience and life satisfaction. In moving toward holistic and patient-centered care, readiness to change should be considered a central target for enhancing both clinical outcomes and personal well-being.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (5th ed.).*

Amodeo, M., Lundgren, L., Cohen, A., Rose, D., & Chassler, D. (2008). Client readiness, motivation, and enrollment in substance abuse treatment. *Substance Use & Misuse, 43(2), 299–316.*

Burrow-Sanchez, J. J., & Lundberg, N. R. (2007). Readiness to change and substance abuse treatment of adolescents. *Journal of Child & Adolescent Substance Abuse, 16(2), 25–38.*

DiClemente, C. C. (2018). Addiction and change: How addictions develop and addicted people *recover (2nd ed.). Guilford Press.*

DiClemente, C. C., Schlundt, D., & Gemmell, L. (2004). Readiness and stages of change in addiction treatment. *American Journal on Addictions, 13(2), 103–119.*

Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist, 55(1), 34–43.*

Diener, E., Suh, E., Lucas, R. E., & Smith, H. L. (2003). Subjective well-being: Three decades of progress. *Psychological Bulletin, 125(2), 276–302.*

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2012). Acceptance and commitment therapy: The process and practice of mindful change (*2nd ed.). Guilford Press.*

Heather, N., & Hönekopp, J. (2008). A revised edition of the Readiness to Change Questionnaire (Treatment Version). *Addiction Research & Theory, 16(5), 421–433.*

Joe, G. W., Simpson, D. D., & Broome, K. M. (1998). Effects of readiness for drug abuse treatment on client retention and outcomes. *Addiction, 93(8), 1177–1190.*

Kelly, J. F., & Daley, D. C. (2013). Integrated treatment of substance use and psychiatric disorders. *Social Work in Public Health, 28(3–4), 388–406.*

Kelly, J. F., Stout, R. L., Greene, M. C., & Slaymaker, V. (2012). Young adults, social networks, and addiction recovery: *Post-treatment changes in social ties and their role as a mediator of 12-step participation. PLoS One, 7(9), e44463.*

Kermode, M., Crofts, N., Kumar, M. S., Dorabjee, J., & Rodger, A. (2009). The social and economic impact of harm reduction interventions in South Asia. *Harm Reduction Journal, 6(1), 1–8.*

Laudet, A. B. (2011). The case for considering quality of life in addiction research and clinical practice. *Addiction Science & Clinical Practice, 6(1), 44–55.*

Laudet, A. B., & White, W. (2010). What are your priorities right now? Identifying service needs across recovery stages to inform service development. *Journal of Substance Abuse Treatment, 38(1), 51–59.*

Livingston, J. D., Milne, T., Fang, M. L., & Amari, E. (2012). The effectiveness of interventions for reducing stigma related to substance use disorders: A systematic review. *Addiction, 107(1), 39–50.*

Marel, C., Mills, K. L., Slade, T., Teesson, M., Calvo, R. A., McFarlane, A., ... & Kay-Lambkin, F. (2019). Assessing the quality of mental health care in the context of co-occurring substance use disorder. *Australian & New Zealand Journal of Psychiatry, 53(6), 552–565*.

Miller, W. R., & Rollnick, S. (2013). Motivational interviewing: Helping people change (*3rd ed.). Guilford Press.*

Norcross, J. C., Krebs, P. M., & Prochaska, J. O. (2011). Stages of change. *Journal of Clinical Psychology, 67(2), 143–154.*

Prochaska, J. O., & DiClemente, C. C. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology, 51(3), 390–395.*

Tucker, J. A., Foushee, H. R., & Simpson, C. A. (2009). Increasing the public health impact of evidence-based addiction treatments: Introduction to the special issue. *Journal of Substance Abuse Treatment, 36(1), 1–3.*

Volkow, N. D., Koob, G. F., & McLellan, A. T. (2016). Neurobiological advances from the brain disease model of addiction. *New England Journal of Medicine, 374(4), 363–371*.

World Health Organization. (2022). *Mental health and substance use.* https://www.who.int/teams/mental-health-and-substance-use

Zemore, S. E., & Kaskutas, L. A. (2009). 12-step involvement and peer helping in day hospital and residential programs. *Substance Use & Misuse, 44(13), 1953–1975.*