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Studying the Effect of Mindfulness, Dissociative Experiences, and Feelings of Loneliness in Predicting the Tendency to Use Substances in Nurses

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Abstract

Several factors may cause disturbances in the emotional health of nurses and lead to negative coping behaviors (such as the tendency to use drugs). The present study was conducted to investigate the role of mindfulness, dissociative experiences, and feelings of loneliness in predicting the tendency to use drugs in nurses. This study was done by the descriptive-correlation method. Among the statistical population, 220 nurses working in the hospital were selected as available sampling and responded to the mindfulness assessment scale, dissociative experience scale, loneliness questionnaire, and addiction readiness scale. The collected data were analyzed using multiple regression analysis and Pearson's correlation coefficient in SPSS-23 software. The results showed that there is a positive and significant relationship between feelings of loneliness and dissociative experiences with the tendency to use drugs ($P<0.01$). Based on the results, a negative and significant relationship was reported between mindfulness and the tendency to use drugs ($P<0.01$). Also, the results of multiple regression analysis revealed that 0.684 variance of active tendency to use drugs and 0.638 variance of passive tendency to use drugs in nurses is explained by mindfulness, dissociative experiences, and loneliness. The results of this research show the significant role of mindfulness, dissociative experiences, and feelings of loneliness in predicting the tendency to use drugs in nurses. Healthcare systems should focus resources on supporting the psychological and emotional health of nurses, and in this regard, special attention should be paid to the role of the components of this study to design effective therapeutic interventions to prevent the tendency to drug use in nurses.

Keywords: Nurses, Emotional health, Negative coping behaviors, Substance

Introduction

Nursing is a very difficult and sensitive job and requires knowledge of medical practices, and the ability to manage interpersonal styles, demands, and also time management [1, 2]. Also, environmental and work-related factors, psycho-social vulnerabilities, overtime, stressful environments, and easy access to psychotropic drugs have caused nurses to tend to use drugs to reduce their mental pressure. In other words, based on the self-medication model, people who experience various stresses may relieve their distress by using substances [3-5]. Substance use does not differ among several groups of the population, especially among health professionals. For nursing staff

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specialists, the rates vary between 6 and 8 percent, which is higher in the context of excessive use of sedatives. In general, because examining the tendency to use drugs in health care providers and nurses has received less attention, and also that nurses play an important role in the health care system, therefore, the examination of various assumptions and especially some Psychological components are important in predicting the tendency to use drugs in nurses [6, 7].

Research literature shows that dissociation is one of the important components in predicting the tendency to use drugs [8]. Also, for people who have been exposed to various stress and traumas during their life, experiencing dissociation is considered a common response in them [9]. The dissociation model points out that people who are under a lot of stress or manage to separate their awareness from their distress experience, also these people may use substances to manage the uncomfortable emotions caused by dissociation [10]. Dissociation responses represent a strategy used to reduce awareness of distressing emotions. Dissociation enables the mental placement of distress by preventing introspective access to unbearable psychological contents, and the important point is that this coping strategy is considered incompatible; because it interferes with the adaptive emotional processing of distressing experiences [10]. Therefore, people turn to drugs to manage unpleasant emotions. Therefore, in the nursing community, it can be said that due to different work shifts in the night shift and overtime, exposure to traumatic events such as injury and death of patients in the hospital, as well as the history of some traumas in personal life, the possibility of experiencing dissociation after Such traumatic events in nurses may be high, and therefore the tendency to use drugs can be considered as a risk factor in nursing populations. One of the hypotheses of this research is that the experience of dissociation in nurses is a predictor of substance use.

Unlike dissociation, which is a form of separating awareness from experience, mindfulness is one of the components that is defined as paying full attention to the experience of the present moment, an attitude based on acceptance, non-judgment, and openness [11]. Mindfulness is a cognitive process in which a person's mind is aware by focusing on the experience of feelings and events that are happening in or around him at the present moment. A non-judgmental attitude towards personal experience leads to people having less reaction and instead more acceptance towards these experiences [11]. There is a relationship between the dimensions of mindfulness and addiction. Non-judgmental acceptance is the key to the process of challenging negative cognitions in addiction [12]. Clinical research shows that mindfulness can improve cognitive flexibility, attention control, and emotion regulation and help people to more effectively manage their cognitions, emotions, and behaviors in stressful situations, from risky behaviors such as drug use [13]. In other words, it can be said that the existence of mindfulness competencies can help people who are exposed to stressful and tense situations to be more resilient and self-regulated and reduce their tendency to use drugs [14]. In this study, due to the presence of challenging and stressful situations in the nurses' work environment, it is assumed that mindfulness is one of the components that may have a predictive role in preventing the tendency to use drugs in nurses.

Another important component in predicting the tendency to use drugs is loneliness. Loneliness is a complex problem that overshadows psychological and social well-being [15]. In the health care system, nurses often do their work with compassion, critical thinking empathy, accepting, and caring for patients; however, nurses are often left without empathy, acceptance, and support. Therefore, this can make nurses feel lonely, absent, isolated, and separated from their work [16]. The feeling of loneliness is a response to the lack of a positive and satisfying relationship with others, and Sullivan considers this state to be the result of being deprived of the basic human need for intimacy. This is the feeling of deprivation from social relations [17]. The feeling of loneliness leads to disturbing cognitive, emotional, and behavioral experiences, and by intensifying this world, it facilitates the individual's tendency to addiction [18]. The feeling of loneliness by weakening social interactions and reducing the social competence of the person has strengthened the background of the acuteness of the person's tensions so that the person in such a situation chooses addiction as a way to get rid of this painful situation. Therefore, the process of a person's tendency to use drugs will accelerate [18]. Therefore, it is assumed that the feeling of loneliness in nurses can be a predictor of their tendency to use drugs.

In general, the negative effects of providing care are exacerbated by the severity of traumatic experiences that nurses are exposed to. These traumatic experiences may evoke a range of unpleasant emotions such as fatigue, anger, irritability, decreased sense of pleasure, and impaired ability to make decisions and care for patients. Subsequently, some nurses develop negative coping behaviors such as alcohol and drug abuse or use [19]. Therefore, considering the increasing growth of addiction and its destructive effects on various aspects of people's lives, and in addition, less attention is paid to this phenomenon among hospital personnel and treatment staff, research in this field and identifying its antecedents is important. Therefore, the present study aimed to investigate the role of the dissociative experiences of mindfulness and feelings of loneliness in predicting the tendency to use drugs among nurses.

Materials and Methods

This descriptive, correlational research sought to investigate the role of dissociation experiences, mindfulness, and feelings of loneliness in predicting the tendency to use drugs in nurses. Among the statistical population, 220

nurses working in the hospital were selected as available sampling. The criteria for entering the study included having at least two years of work experience, the absence of severe physical and psychological problems, and full consent to participate in the research. The exclusion criteria from the research were incomplete completion of the questionnaires. After obtaining the permits and making the necessary arrangements, the research was carried out in the hospitals of the city. The data collection process was also done in the field. To implement ethical considerations in this research, the ethical codes proposed by the American Psychiatric Association, including the principle of confidentiality and confidentiality, and the written consent of participants in the research were considered.

The questionnaires used included a dissociation experience scale and a mindfulness assessment scale. The dissociation experiences scale is a short self-assessment tool to measure the frequency of dissociation experiences, which was created in 1986 by Bernstein and Putnam [20]. This scale includes 28 questions. It evaluates dissociation symptoms on a 10-point Likert scale from never (0) to always (9). Also, this scale measures three subscales including alienation from self, forgetfulness, dissociation, and imagination and absorption. Bernstein and Putnam expressed the sensitivity of this scale as 0.76 and its specificity as 0.76 [20]. In Olson and Beck's research, the internal consistency of this scale is 0.70, the retest reliability is 0.84, and the Cronbach's alpha coefficient for the whole scale is 0.94 [21]. In this scale, a cut-off score of 30 is used [20]. The mindfulness assessment scale was designed by Brown and Ryan [22] and is used to measure mindfulness. This scale has good validity. So that it was implemented on seven sample groups and its Cronbach's alpha was reported between 0.82 and 0.87 [22]. The validity of this scale has also been reported at a high level so it has a very high correlation ($P<0.0001$) with several mental health variables [22]. Also, the construct validity and criteria of this scale have been measured in cancer patients. High scores on the mindfulness scale are associated with low mood disturbance and low-stress symptoms [23].

Data analysis was done using the Pearson correlation test and multiple regression analysis through SPSS-23 software.

Results and Discussion

The number of subjects in this research was 220 people. 30 people (13.6%) have associate degrees, 132 people (60%) have bachelor's degrees, 44 people (20%) have MSc degrees, and 14 people (6.4%) were PhD students. The average age was 37.41 and the standard deviation of age was 7.210 **(Table 1)**.

Table 1. Demographic information of the sample.

Variable		N	%
Age	21-25 years	16	7.28
	26-31 years	25	11.36
	32-40 years	102	46.36
	≥ 41	77	35
	Total	220	100
Education	Associate degree	30	13.6
	Bachelor degree	132	60
	MSc degree	44	20
	PhD students	14	6.4
	Total	220	100

Table 2 shows the mean and standard deviation and normality statistics including Kolmogorov Smirnov.

Table 2. Average, standard deviation, and normality of research variables.

Variables	Mean	Standard deviation	ks	Sig.
Active orientation to materials	11.50	8.067	0.705	0.236
Passive orientation to materials	7.03	6.502	0.714	0.235
Separation from self	15.46	12.536	0.611	0.235
Dissociation amnesia	14.67	11.548	0.708	0.318

Imagination and attraction	21.51	15.300	0.710	0.303
Total score of dissociation experiences	51.65	36.547	0.922	0.502
Mindfulness	29.64	14.516	0.750	0.199
Family loneliness	26.97	13.433	0.851	0.702
Loneliness friends	24.75	12.738	0.655	0.120
Emotional loneliness	21.97	9.308	0.776	0.164
The total score of loneliness	73.70	34.849	0.662	0.354

After examining the descriptive findings in **Table 2** and the assumptions of Pearson's correlation and multiple regression, initially, Pearson's correlation coefficient was initially used to examine the relationship between the experiences of dissociation, mindfulness, and loneliness with the tendency to use drugs. **Table 2** is given. In this research, before implementing Pearson's correlation coefficient and multiple regression, its presuppositions were checked. The distribution of the scores of the research variables is normal with 95% confidence. Since the significance levels of normality, statistics were greater than 0.05. The value of the Durbin-Watson statistic was between 1.5 and 2.5, which indicates the independence of the errors. Examining the assumption of multiple non-collinearity with the tolerance coefficient and variance inflation showed that none of the values of the tolerance statistic are smaller than the permissible limit (0.1) and none of the values of the variance inflation factor are larger than the permissible limit (10). Therefore, based on the two mentioned indicators, the presence of multiple collinearity in predictor variables was not observed.

Table 3. Pearson correlation matrix results between research variables.

Variables	1	2	3	4	5	6	7	8	9	10	11
Active orientation to materials	1										
Passive orientation to materials	0.735**	1									
Separation from self	0.723**	0.514**	1								
Dissociation amnesia	0.632**	0.614**	0.552**	1							
Imagination and attraction	0.552**	0.442**	0.614**	0.550**	1						
Total score of dissociation experiences	0.550**	0.614**	0.711**	0.552**	0.562**	1					
Mindfulness	-0.620**	-0.617**	-0.512**	-0.617**	-0.642**	-0.518**	1				
Family loneliness	0.414**	0.515**	0.255**	0.618**	0.614**	0.550**	-0.518**	1			
Loneliness friends	0.352**	0.325**	0.644**	0.617**	0.617**	0.317**	-0.555**	0.617**	1		
Emotional loneliness	0.641**	0.414**	0.741**	0.635**	0.518**	0.600**	-0.412**	0.512**	0.600**	1	
The total score of loneliness	0.550**	0.502**	0.551**	0.625**	0.620**	0.500**	-0.335**	0.612**	0.414**	0.660**	1

** Significant at the 0.01 level

Based on **Table 3**, the results of Pearson's correlation coefficient matrix showed that there is a positive and significant relationship between dissociative experiences and feelings of loneliness with active and passive tendency to use drugs. There is a negative and significant relationship between mindfulness and active and passive tendency to use drugs. The results were significant at the P<0.01 level. Since there is a significant relationship between the research variables, this makes it possible to continue the analysis. Therefore, multiple regression is used to predict the active tendency to use drugs based on the experiences of dissociation, mindfulness, and loneliness, the results of which are shown in **Table 4**.

Table 4. Summary of multiple regression coefficients of active tendency to use drugs based on experiences of dissociation, mindfulness, and feelings of loneliness.

Predictors	R	R^2	F	The significance of F	β	t	Sig.	Tolerance	VIF	Durbin-Watson
Constant	0.827	0.684	65.493	0.001	-	1.841	0.067	-	-	2.525
Separation from self					0.266	2.929	0.025	0.201	4.971	
Dissociation amnesia					0.300	4.029	0.001	0.269	3.716	
Imagination and attraction					0.207	2.251	0.012	0.204	4.892	
Mindfulness					-0.224	-2.555	0.011	0.193	5.170	
Family loneliness					0.266	2.899	0.037	0.144	9.894	
Loneliness friends					0.255	3.253	0.021	0.132	3.356	
Emotional loneliness					0.438	2.572	0.011	0.151	9.439	

According to **Table 4**, the results showed that experiences of dissociation, mindfulness, and loneliness can predict the active tendency to use drugs. The strongest predictor variable is emotional loneliness with a beta coefficient of 0.438. In the following, multiple regression is used to predict the passive tendency to use drugs based on the experiences of dissociation, mindfulness, and loneliness, the results of which are shown in **Table 5**.

Table 5. Summary of multiple regression coefficients of passive tendency to use drugs based on experiences of dissociation, mindfulness, and feelings of loneliness.

Predictors	R	R^2	F	The significance of F	β	t	Sig.	Tolerance	VIF	Durbin-Watson
Constant	0.799	0.638	127.925	0.001	-	0.933	0.352	-	-	2.599
Separation from self					0.268	2.010	0.014	0.201	4.971	
Dissociation amnesia					0.216	2.275	0.038	0.269	3.716	
Imagination and attraction					0.321	4.833	0.001	0.204	4.892	
Mindfulness					-0.244	-2.105	0.036	0.193	5.170	
Family loneliness					0.279	2.942	0.033	0.144	9.894	
Loneliness friends					0.379	2.065	0.028	0.132	3.356	
Emotional loneliness					0.381	2.878	0.004	0.151	9.439	

According to **Table 5**, the results showed that the experiences of dissociation, mindfulness, and loneliness can predict the passive tendency to use drugs. The strongest predictor variable was emotional loneliness with a beta coefficient of 0.381.

The present study investigated the role of dissociation experiences, mindfulness, and loneliness in predicting the tendency to use drugs in nurses. The findings of the research showed that dissociation experiences have a positive and significant relationship with the tendency to use drugs. The results of this study are in line with the research of Najavits and Walsh and Chana *et al*. [8].

In the context of explaining the findings of this study, it can be said that based on the dissociation model, dissociation is defined as the inability to integrate sensory and emotional elements during stressful situations and traumatic events. Dissociation leads to distancing from the stressful situation and in a way watching the traumatic event from a distance, and the person feels that he is not a victim of the unfortunate situation. Therefore, this work leads to the violation of memory and the feeling of depersonalization and reality. Therefore, dissociation is an attempt to avoid exhausting and unpleasant experiences and feelings, and the tendency to use drugs as an avoidance strategy (avoidance of unpleasant emotions) is probably facilitated through dissociation [24]. Also, the desire of people to separate themselves from unpleasant feelings, thoughts, or experiences (dissociation), may be related to the newer concept of experiential avoidance or a special form of it, which recent research has confirmed the relationship between this component and the tendency to use drugs. Therefore, drug use is considered a dissociative strategy to avoid or escape from unpleasant experiences. In other words, dissociation can be

considered an emotional avoidance mechanism in which people use dissociation to suppress emotions and separate themselves from unpleasant emotions and thoughts, and this factor itself is considered the basis of people's tendency to use drugs. Therefore, nurses may manage the unpleasant effects caused by dissociation by using various drugs in hard work conditions and stressful situations [10]. Therefore, it can be said that dissociation is one of the important components in predicting the tendency to use drugs in nurses.

Another part of the research results showed that mindfulness has a negative and significant relationship with the tendency to use drugs. These results are consistent with the research of Ashe *et al*. [13] and Arnaud *et al*. [14].

In explaining the findings obtained from the present study and based on the mindfulness model, it can be said that people in difficult situations learn to observe their inner experiences with acceptance, even painful memories, feelings, thoughts, and bodily sensations consider it as a transitory phenomenon and get rid of the trap of avoiding experience. People observe their relationship with painful thoughts and feelings in a way so that their impact and influence on their lives is reduced and they do not fall into the trap of addiction to escape from painful feelings [25]. Mindfulness initiates processes that simultaneously both optimize psychological functioning and reduce psychological distress. Therefore, it improves the ability to manage negative emotions by increasing familiarity with inner life and reducing reactivity to it. This recognition of inner life can lead to effective coping with negative emotions. For this reason, the regulation of emotions and emotions creates a double ability to avoid the tendency to use drugs in people [26]. In general, mindfulness is a protective factor against the severity of psychological distress. In addition, a psychological resource helps to cope with and manage stressful events. Mindfulness can reduce the stress caused by stressful events and reactive responses related to it, thereby increasing physical and psychological health and thus reducing the tendency of people to use drugs [27]. Therefore, it can be said that nurses who have a higher ability of mindfulness are less likely to tend to drug use in difficult and stressful situations.

Other findings of the research showed that there is a positive and significant relationship between the feeling of loneliness and the tendency to use drugs. These findings are similar to Ingram *et al*.'s research [28]. In explaining the findings of this research, we can refer to the cognitive theory of loneliness. Cognition may be important in explaining loneliness among substance abusers. These people may have an internal and stable attributional style in explaining their loneliness; That is, they believe that their loneliness is caused by their inner defect and this defect is stable and unchangeable. Also, excessive vigilance towards social threats in the environment and negative expectations of social interactions are described as the main factors in starting and maintaining loneliness [28].

Conclusion

In total, the findings of this study showed the significant role of dissociation, mindfulness, and loneliness in predicting the tendency to use drugs in nurses. This study can help understand the role of dissociation and loneliness in the tendency of nurses to use drugs and also clarify the role of mindfulness in preventing the tendency to use drugs. Therefore, it is necessary to formulate training and treatment approaches based on dissociation, mindfulness, and loneliness in nurses, to prevent the tendency to use drugs. Failure in this field can cause irreparable damage to healthcare providers and nurses.

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References

1. Amirouche A, Felix H, Serreau R, Denormandie P, Fernandez J, Coscas S, et al. Addiction among health care professionals? What is the current state of nurses, caregivers and paramedics in 2022? A review. Arch Clin Biomed Res. 2023;7:256-61.
2. Cazalis A, Lambert L, Auriacombe M. Stigmatization of people with addiction by health professionals: Current knowledge. A scoping review. Drug Alcohol Depend Rep. 2023;9:100196. doi:10.1016/j.dadr.2023.100196
3. Bonfiglio NS, Renati R, Agus M, Penna MP. Development of the motivation to use substance questionnaire. Drug Alcohol Depend. 2022;234:109414.
4. Yang JY, Kim M, Sohn A. Development and validation of a questionnaire for assessing drug use motives in the general population in South Korea. Healthcare (Basel). 2023;12(1):86. doi:10.3390/healthcare12010086

5. Junqueira MA, Santos MA, Araújo LB, Ferreira MC, Giuliani CD, Pillon SC. Depressive symptoms and drug use among nursing staff professionals. Escola Anna Nery. 2018;22(4):e20180129.
6. Kunyk D. Substance use disorders among registered nurses: Prevalence, risks and perceptions in a disciplinary jurisdiction. J Nurs Manag. 2015;23(1):54-64.
7. Foli KJ, Reddick B, Zhang L, Krcelich K. Substance use in registered nurses: "I heard about a nurse who . . .". J Am Psychiatr Nurses Assoc. 2020;26(1):65-76. doi:10.1177/1078390319886369
8. Mildrum Chana S, Wolford-Clevenger C, Faust A, Hemberg J, Ramaswamy M, Cropsey K. Associations among betrayal trauma, dissociative posttraumatic stress symptoms, and substance use among women involved in the criminal legal system in three US cities. Drug Alcohol Depend. 2021;227:108924.
9. Wagner A, Linehan MM. Dissociation. In: Follette JI, Ruzek JI, Abueg FR, editors. Cognitive behavioral therapies for trauma. New York: Guilford Press; 1998. pp. 191-225.
10. Ahmadi F, Goodarzi MA, Taghavi MR, Imani M. Modeling the structural relationships between trauma exposure with substance use tendency, depression symptoms, and suicidal thoughts in individuals with earthquake trauma experience: The mediatory role of peritraumatic dissociation and experiential avoidance. BMC Psychiatry. 2024;24(1):171.
11. McKeering P, Hwang YS. A systematic review of mindfulness-based school interventions with early adolescents. Mindfulness. 2019;10(4):593-610.
12. Fan L, Cui F. Mindfulness, self-efficacy, and self-regulation as predictors of psychological well-being in EFL learners. Front Psychol. 2024;15:1332002. doi:10.3389/fpsyg.2024.1332002
13. Ashe ML, Newman MG, Wilson SJ. Delay discounting and the use of mindful attention versus distraction in the treatment of drug addiction: A conceptual review. J Exp Anal Behav. 2015;103(1):234-48.
14. Arnaud N, Baldus C, Laurenz LJ, Bröning S, Brandt M, Kunze S, et al. Does a mindfulness-augmented version of the German strengthening families program reduce substance use in adolescents? Study protocol for a randomized controlled trial. Trials. 2020;21(1):114-29.
15. Niu X, Li JY, King DL, Rost DH, Wang HZ, Wang JL. The relationship between parenting styles and adolescent problematic Internet use: A three-level meta-analysis. J Behav Addict. 2023;12(3):652-69. doi:10.1556/2006.2023.00043
16. Wood RE, Paulus AB. Loneliness and burnout in nephrology nurses: A review of the literature and indications for future research. Nephrol Nurs J. 2023;50(3):203-35.
17. Jeong EJ, Kim DJ, Lee DM, Lee HR. A study of digital game addiction from aggression, loneliness and depression perspectives. In 2016 49Th Hawaii International Conference on System Sciences (HICSS) 2016(pp. 3769-3780). IEEE.
18. Santini ZI, Fiori KL, Feeney J, Tyrovolas S, Haro JM, Koyanagi A. Social relationships, loneliness, and mental health among older men and women in Ireland: A prospective community-based study. J Affect Disord. 2016;204:59-69.
19. Jarrad R, Hammad S, Shawashi T, Mahmoud N. Compassion fatigue and substance use among nurses. Ann Gen Psychiatry. 2018;17:13.
20. Bernstein EM, Putnam FW. Development, reliability, and validity of a dissociation scale. J Nerv Ment Dis. 1986;174(12):727-35.
21. Olsen SA, Beck JG. The effects of dissociation on information processing for analogue trauma and neutral stimuli: A laboratory study. J Anxiety Disord. 2012;26(1):225-32.
22. Brown KW, Ryan RM. The benefits of being present: Mindfulness and its role in psychological well-being. J Pers Soc Psychol. 2003;84(4):822-48.
23. Carlson LE, Brown KW. Validation of the mindful attention awareness scale in a cancer population. J Psychosom Res. 2005;58(1):29-33.
24. Klanecky A, McChargue DE, Bruggeman L. Desire to dissociate: Implications for problematic drinking in college students with childhood or adolescent sexual abuse exposure. Am J Addict. 2012;21(3):250-6.
25. Polk KL, Schoendorff B, Webster M, Olaz FO. The essential guide to the ACT Matrix: A step-by-step approach to using the ACT Matrix model in clinical practice. New Harbinger Publications; 2016.
26. Asi Kouchesfahani A, Baradaran M. The effectiveness of mindfulness training on cognitive emotion regulation, experiential avoidance, and methadone dose reduction in patients under methadone treatment. Etiadpajohi. 2023;16(66):291-310.
27. Altan-Atalay A, Abdulcebbar A, Kantarcı L, Yılmaz E. The roles of intolerance of uncertainty and mindfulness in psychological distress: A two-wave longitudinal study. Curr Psychol. 2024:1-8. doi:10.1007/s12144-024-06243-7
28. Ingram I, Kelly PJ, Deane FP, Baker AL, Goh MCW, Raftery DK, et al. Loneliness among people with substance use problems: A narrative systematic review. Drug Alcohol Rev. 2020;39(5):447-83.