Effect of Social Support on Relapse Tendency of Drug Abusers: Mediating Role of Psychological Control Sources

Hongxiu Tan[1,a], Yuwen Chen[2,b*], Lin Jia[2,c], Bingmei Zhang[2,d], Yunyu Chen[1,e], Zijian Feng[1,f]

{lshow@163.com[a], 240243378@qq.com[b*], 252361843@qq.com[c], 760617659@qq.com[d], 243242105@qq.com[e], 631808916@qq.com[f]}

School of Educational Science, Shaoguan University, Shaoguan, China[1]
Forced isolation of Drug Rehabilitation Centers of Shaoguan City, China[2]

Abstract. Objective: To explore the influence mechanism of social support on relapse tendency of drug abusers. Methods: A total of 186 male drug abusers in Shaoguan compulsory isolation center were investigated by using the questionnaire of basic situation, social support scale, internal and external psychological control source scale, and the questionnaire of the tendency of drug abusers to relapse. Results: (1) Most of the drug addicts were over 40 years old (46.80%), below junior middle school (82.80%), unemployed (39.80%), single (67.20%), and had taken drugs more than twice (56.50%).; (2) The correlation coefficient between relapse tendency and psychological control source was -0.258 (P<0.001), the correlation coefficient between relapse tendency and social support was -0.387 (P<0.001), the correlation coefficient between psychological control source and social support was 0.154 (P<0.001). (3) The total effect of social support on relapse tendency was -0.258, the direct effect was -0.203, and the mediating effect between loneliness and family environment was -0.055, accounting for 21.32% of the total effect. Conclusions: (1) Most of the drug abusers in compulsory isolation were over 40 years old, unemployed, single, with low education level and relapse experience; (2) There was a significant negative correlation between social support and relapse tendency, a significant negative correlation between psychological control source and relapse tendency, and a significant positive correlation between social support and psychological control source; (3) Psychological control source plays an intermediary role between social support and relapse tendency, that is, social support can directly affect relapse tendency, or indirectly affect relapse tendency through psychological control source; (4) The relapse tendency of drug abusers can be reduced by improving social support and psychological control.

Keywords: Drugs; Social support; Psychological control source; Relapse tendency

1 Introduction

Relapse tendency refers to the tendency of drug abusers to return to drug use after successful treatment [1]. Existing studies have revealed the influence of multiple factors on the relapse tendency of drug abusers, mainly including internal factors (psychological) and external factors (mainly peer groups, family and social support), such as physical activity [[2-3], psychological capital [4], self-control [5-6], motivation for drug abstinence [7], etc. Among

them, social support [8] and source of psychological control [9] have attracted much attention as two important factors.

Social support refers to an individual's subjective feeling of the support from the social group [10]. Social support plays an important role in the rehabilitation of drug abusers. Studies have shown that active support from family, friends, community and other aspects can significantly reduce the risk of relapse for drug abusers [11]. High degree of social support can not only directly reduce the probability of relapse, but also indirectly reduce the influence of other factors on relapse [12]. Atadokht et al. 's study showed that the increase of relapse frequency was related to the perception of social support from family and friends and the decrease of the total amount of social support [13]. It has been proved that the lack of perceived social support will reduce the resistance of drug abusers to environmental pressure, and then lead to drug relapse and abuse. Therefore, hypothesis 1 can be proposed: social support can negatively predict the relapse tendency of drug abusers.

The source of psychological control refers to an individual's generalized expectation of whether the outcome of an event is controlled by himself or by an external force [14]. The source of psychological control is divided into internal control and external control. The internal control individual believes that the outcome of the event depends on his own behavior, beliefs and personal efforts, while the external control individual believes that the outcome of the event is controlled by external factors such as others and luck. Studies have shown that the source of psychological control is closely related to relapse tendency and behavior, and there is a positive correlation between internal control and relapse tendency, that is, the more internally controlled drug abusers are, the more able they are to resist external temptation and the easier they are to maintain their addiction behavior [15]. Internal control means that abusers believe that their behavior is under their control, and are more likely to set clear goals for drug withdrawal and make efforts to achieve these goals, thereby reducing the risk of relapse [16].

However, sources of social support and psychological control do not exist in isolation. Some studies have found that there is a complex interaction between social support and psychological control sources, and the two influence and promote each other [17]. Specifically, positive social support can enhance the source of psychological control for drug abusers and improve their ability to plan for the future and self-control [18]. Conversely, lack of social support may weaken the source of psychological control for abusers, making them more susceptible to temptation and increasing the risk of relapse [19]. At the same time, the source of psychological control can also affect the degree of dependence on social support of drug abusers, making them more willing to seek external support [20]. This interaction complicates the study of the mechanism of the influence of social support and psychological control sources on relapse in drug abusers. Therefore, hypothesis 2 can be put forward: psychological control source plays a mediating role between social support and relapse tendency of drug abusers.

To sum up, the existing researches mainly focus on the single influence of social support or psychological control source, and seldom explore the interaction mechanism between them. Therefore, the interaction between social support and psychological control source is complex and diverse as the important influencing factors of drug abusers' relapse. In-depth study of the relationship between the two will not only help to better understand the internal and external

mechanisms of drug abusers, but also provide useful reference for the formulation of more personalized and targeted drug abstinence intervention strategies, which has important guiding significance for the practice of drug abstinence treatment.

2 Research method

2.1 Research object

A total of 200 male abusers from the compulsory isolation drug rehabilitation center in Shaoguan City, Guangdong Province were selected as the study subjects. In order to ensure the accuracy of the data, questionnaires were distributed to most drug addicts who could understand the meaning of the questions, and questionnaire interviews were used for illiterate and semi-illiterate drug addicts. A total of 200 questionnaires were sent out, and after eliminating 14 invalid questionnaires, 186 valid questionnaires were successfully recovered, with a recovery rate of 93%.

2.2 Research tool

In this study, four questionnaires were used as research tools to comprehensively understand the situation of the respondents.

2.2.1 Basic Information Questionnaire

This questionnaire mainly covers the basic background information of the respondents, including age, occupation, education level, marital status, relationship with relatives, the number of drug rehab, drug use time, etc. Through this information, we can have a deeper understanding of the individual characteristics of the respondents and provide detailed basic data for the study.

2.2.2 Social Support rating Scale

Social Support Rating Scale (SSRS) [22] is a scale designed and compiled by Xiao Shuiyuan et al on the basis of learning from the same type of scales abroad and according to the actual situation in China, which is also applicable in Japan and other countries. The scale consists of 14 items, including three dimensions: objective support, subjective support and utilization of support. The questionnaire adopts a 4-level scoring method ranging from 1 to 4 points. The higher the total score and the score of each dimension, the better the degree of social support. The scale has good reliability and validity, the retest reliability is 0.92, the α coefficient of this measurement is 0.879, and the reliability is high.

2.2.3 Psychological control source scale

The internal-external Source of Psychological Control Scale [23], compiled by Rotter JB, was adopted. There are 29 items in total, six of which are not scored, and the total score of the scale ranges from 0 to 23, with the highest score representing extreme internal attribution tendency and the lowest score representing extreme external attribution tendency, and the average score is 11. A score above 11 indicates a preference for internal attribution, while a score below 11 indicates a preference for external attribution. The internal consistency

coefficient of the scale was 0.70, the retest reliability was 0.72 after one month, and the α coefficient of this measurement was 0.716, indicating a high reliability.

2.2.4 Relapse Tendency Scale

The Psychological Survey of Relapse Tendency for Drug abusers compiled by Geng Wenxiu was adopted [21]. The scale consists of 18 items and adopts a 6-level scoring method ranging from 0 to 5. The higher the score, the higher the tendency to relapse, and the lower the tendency to relapse. The scale includes five dimensions, namely self-assessment of drug withdrawal confidence, current influence of drugs, future objective environment, degree of physical and mental impairment, and social support system. On this scale, the higher the score in each dimension, the worse the situation in that dimension. The reliability and validity of the scale is 0.86, and the α coefficient of this measurement is 0.874, indicating that the internal consistency of the scale is good.

2.3 Data processing and analysis methods

SPSS24.0 statistical software was used to process and analyze the data.

3 Research Results

3.1 Demographic data analysis of drug abusers

All participants in the study were male. In terms of age distribution, 21.5% were between 19 and 30 years old, 31.7% were between 30 and 40 years old and 46.8% were over 40 years old. In terms of education level, 6.5% were illiterate or semi-literate, 30.1% were literate in primary school, 46.2% were literate in junior middle school, and 17.2% were literate in senior high school or technical secondary school. In terms of occupation distribution, farmers accounted for 15.1%, other occupations accounted for 45.2%, and unemployed accounted for 39.8%. In terms of marital status, 38.2% were unmarried, 29.0% divorced and 32.8% married. In terms of drug treatment experience, 43.5% of the people entered the drug treatment center for the first time, and 89.2% of the people used drugs for more than one year.

3.2 Common method deviation test

Because all the data in this study were derived from self-reports of the respondents, there is a potential for common methodology bias. To address this problem, we use anonymous data collection and control through reverse scoring of some items. In addition, we also performed the Harman single factor test, a principal component factor analysis without rotation for all variables. The results show that a total of nine factors have a feature root greater than 1, and the first factor has a variation explanation rate of 24.53%, which is below the critical standard of 40%, indicating that the data in this study are not statistically affected by serious common method bias problems. This means that our data can be considered relatively reliable, independent of potential common methodological biases.

3.3 Influence of social support and psychological control source on relapse tendency of drug abusers

The correlation analysis of social support, psychological control source and relapse tendency of drug abusers was carried out, and the results were shown in table 1. It can be seen from the data in table 1 that there is a significant correlation between these three piniones, in which social support and relapse tendency have a significant negative correlation ($r=-0.258$, $P<0.001$), that is, the higher the social support, the lower the relapse tendency; There was a significant positive correlation between social support and source of psychological control ($r=0.154$, $P<0.001$), and a significant negative correlation between source of psychological control and relapse tendency ($r=-0.387$, $P<0.001$), that is, the higher the score of source of psychological control (the more inclined to internal attribution), the lower the relapse tendency. This could mean that increasing the level of social support may increase the level of psychological control and thus reduce the level of relapse tendency.

Table 1. Correlation between social support, psychological control source and relapse tendency of drug abusers.

	M	*SD*	SS	PCS	RT
SS	32.24	8.92	1		
PCS	9.94	3.66	0.154***	1	
RT	27.21	12.75	-0.387***	-0.258***	1

a. *** means $P<0.001$.
b.SS is social support, PCS is psychological control source RT is relapse tendency

3.4 Regression analysis of social support and psychological control sources on relapse tendency

It can be seen from table 1 that relapse tendency, social support and psychological control source are significantly correlated with each other, which meets the conditions for regression analysis. Multiple linear regression analysis is used to explore the influence of social support and psychological control source on relapse tendency of drug abusers. In the three-step analysis, variables for social support and sources of psychological control were progressively added, taking into account the adjusted R².

Table 2 The mediating effect of social support and psychological control source on relapse tendency of drug abusers.

Step	IV	DV	*SE*	*t*	*Beta*	*R²*	*F*
1	SS	RT	0.104	-5.348***	-0.391	0.153	28.600***
2	SS	PCS	0.065	-3.654***	-0.279	0.078	13.354***
3	SS	RT	0.107	-4.503***	-0.337	0.188	18.185***
	PCS		0.126	2.595*	0.194		

a.* means $P<0.05$, ** means $P<0.01$, *** means $P<0.001$.
b.SS is social support, PCS is psychological control source RT is relapse tendency.
c.IV is the independent variable, DV is the dependent variable.

The results showed that (Table 2) : (1) When social support was the independent variable and relapse tendency was the dependent variable, the regression coefficient was significant (P<0.001), that is, social support significantly negatively predicted relapse tendency; (2) When social support was the independent variable and psychological control source was the dependent variable, the regression coefficient was also significant (P<0.01), that is, social support significantly positively predicted psychological control source; (3) When social support and psychological control source were taken as independent variables and relapse tendency as dependent variable, the regression coefficient of social support was significant (P<0.001), but the regression coefficient decreased significantly (standardized regression coefficient changed from -0.258 to -0.203). Therefore, psychological control source played a partial mediating role between social support and relapse tendency. That is, social support can directly affect the relapse tendency of drug abusers, and can also indirectly affect the relapse tendency of drug abusers by means of the mediating variable of psychological control source. The direct effect is -0.203, the intermediate effect is -0.055 (0.154 * -0.356), the total effect is -0.258, and the intermediate effect accounts for 21.32% of the total effect.

4 Discussion

4.1 Demographic characteristics of drug abusers

According to the data, 78.8% of the drug abusers had an education level of junior high school or below, which indicates that the education level of drug abusers is low, reflecting that there may be a certain correlation between the education level and drug abuse problems, which is consistent with some research results [24-25]. Lower levels of education limit employment opportunities and reduce social inclusion, which in turn increases the risk of drug use. Therefore, improving the level of education is one of the important strategies to prevent drug abuse. By providing more educational opportunities, individuals can increase their skills, broaden their career options, improve their self-esteem and social connections, and reduce their propensity to use drugs. Statistics show that 39.8% of drug addicts are unemployed, which reflects that there may be a certain correlation between drug abuse and employment. Joblessness may mean that these individuals are removed from mainstream employment and social networks in society, increasing the risk of relapse.Therefore, the provision of appropriate education and training for social reintegration is very important for the rehabilitation of drug abusers. According to the data, 66.88% of drug abusers are single, which reflects the possible correlation between marital status and drug abuse problems. Married people may have more social support, can rely on their partners for emotional support, and have more responsibility, which leads to other ways to decompress when feeling stressed. On the other hand, drug addicts may also divorce as a result of drug problems. Data show that more than half of the drug addicts use drugs more than twice, accounting for 56.5%. This suggests the prevalence of relapse. More rehabilitation and psychological support is needed for repeat drug users to help them avoid falling back into drug use.

In general, the results of data analysis show that there is a diversity of drug addicts, but there are generally low education level, no stable job, more single people, and common relapse characteristics. In order to develop targeted rehabilitation and social support programs, we should consider these characteristics to help addicts better integrate into society and avoid

falling back into drug use. In addition, anti-drug education and information activities should be strengthened in order to reduce the incidence of drug abuse.

4.2 Influence of social support on relapse tendency of drug abusers

The results show that the social support of drug abusers is negatively correlated with their relapse tendency, and social support can negatively predict their relapse tendency. That is, the higher the degree of social support, the lower the tendency of relapse. This is consistent with the conclusions of previous studies [26-28]. Social support is not only an important way to provide material help, but also an important way to provide emotional support and social participation, which can help addicts establish a healthy interpersonal network and improve self-esteem and confidence in drug withdrawal [29]. Social support By providing emotional support, information help and behavioral support, it is expected to reduce the risk of relapse for drug abusers [30]. This result highlights the importance of social support in influencing psychological factors of relapse and points to its positive effect on an individual's level of mental health and coping style.

Previous studies have shown that there is a significant interaction between the perception of social support and individual mental health, and it has a positive regulatory effect on mental health [31]. In the process of detoxification, many drug addicts feel that the subjective sensitivity and utilization rate of social support are relatively limited, and generally feel the exclusion and discrimination from the society [32]. These negative experiences undoubtedly have a negative impact on the mental health and quality of life of drug abusers, and also become an important reason why drug abusers are difficult to stop relapse [33]. Taking into account the great harm to society caused by drug abuse and the particularity of drug addicts, the government, medical institutions, families, friends, employers and other parties should actively support drug addicts to help them reduce or even eliminate drug addiction. This support is important to improve the mental health and quality of life of people recovering from addiction and to reduce the risk of relapse. In the rehabilitation center, some group assistance activities can be arranged to enhance intimacy, enhance mutual understanding or eliminate estrangement, so as to promote friendship among drug addicts, enhance their social support network and increase their social support.

4.3 Mediating role of psychological control source

The results show that psychological control source plays a partial mediating role between social support and relapse tendency of drug abusers. The direct effect of social support on relapse tendency is still significant. This means that social support can not only directly affect the relapse tendency of drug abusers, but also indirectly affect them through psychological control sources. This result is consistent with previous studies on the relationship between the source of psychological control and the tendency of drug abusers to relapse [34]. These studies have highlighted the importance of psychological control sources in individuals coping with stress or adversity and maintaining mental health functioning [35], as well as its role in negatively predicting relapse tendencies [36].

The psychological control source is negatively correlated with the relapse tendency, and the psychological control source can predict the relapse tendency of drug abusers. That is, the higher the score of the source of psychological control, the more inclined to internal

attribution, the higher the psychological control, the lower the relapse tendency. Therefore, in order to reduce the relapse tendency of drug addicts, we can train drug addicts to learn correct attribution and make them have correct and positive attributions. Some behaviors can be used to guide them to make positive and correct attribution. For example, by moderately praising the efforts of drug addicts with good drug treatment effect, those who have negative attribution can be guided to make correct attribution. The detoxics were asked to do some attribution scales for statistical analysis, and timely feedback was given to them to point out their attribution bias and guide and encourage them to make positive attribution.

Although some studies have begun to focus on the mediating role of source of control in the influence of other factors on relapse tendency, the relationship between source of control, social support and relapse tendency is still an understudied area. This study has enriched the theoretical framework on the influence of relapse tendency by integrating the perspectives of psychological control source and social support. It also suggests that drug addiction intervention workers can intervene both psychological control source and social support to reduce the relapse rate of drug abusers.

5 Conclusions

(1) The drug addicts in the drug rehabilitation center are mostly middle-aged people over 40 years old, unemployed, unmarried, and poorly educated; (2) There was a significant negative correlation between social support and relapse tendency, a significant negative correlation between psychological control source and relapse tendency, and a significant positive correlation between social support and psychological control source; (3) Psychological control source plays an intermediary role between social support and relapse tendency, that is, social support can directly affect relapse tendency, or indirectly affect relapse tendency through psychological control source; (4) The relapse tendency of drug abusers can be reduced by improving social support and psychological control.

References

[1] Zhou Huiting, Deng Gang, Liu Xiaojun, et al. Anxiety and relapse in drug addicts: the chain-mediated role of self-disharmony and drug use motivation. Chinese Journal of Drug Dependence, 2019, 28(1): 54-58.
[2] Ouyang Yiyi, Luo Jiong, Wang Kun et al. Effect of physical activity on relapse tendency of AIDS drug abusers: a chain mediation analysis of intrinsic inhibition and drug craving [J]. Journal of Shanghai University of Physical Education,2020,44(10):48-57+67.
[3] Song Liangyuan, Huang Zhijian, Zhou Junjie et al. Study on the effect of aerobic exercise combined with mindfulness on the relapse tendency of drug dependent patients [J]. Sports Science, 2019,43(03):69-77.

[4] Xu Rong. The effect of positive psychological capital on the tendency to relapse in male drug abusers: the mediating role of drug abstinence motivation [J]. Chinese Journal of Drug Dependence, 2019,29(05):383-386.

[5] Wang Xuanyu, Ruan Chuannan, Li Zuoshan et al. The relationship between personality characteristics, self-control and relapse tendency in men undergoing compulsory isolation for drug withdrawal [J]. Chinese Journal of Mental Health, 2019,34(04):347-353. (in Chinese)

[6] He Xiumei, Kuang Liping, Feng Xiangang et al. Study on the relationship between impulsivity, self-control and relapse tendency of drug addicts in withdrawal period [J]. Modern Preventive Medicine,2019,46(08):1430-1433.

[7] Zhang Xufang, Zhang Zhensheng. The effect of motivation on relapse: the mediating role of positive coping style [J]. Chinese Journal of Drug Abuse Prevention and Control, 2019,27(02):136-140. (in Chinese)

[8] Jia Dongming, Jiang Zuzhen, Guo Song. The effect of social support on relapse tendency of drug abusers: the multi-mediating role of exercise self-efficacy and health-related quality of life [J]. Chinese Prison Journal, 2019,38(01):113-119.

[9] Quan Dongming, Liu Janine, Li Gang. Source of control in heroin addicts [J]. Chinese Journal of Drug Dependence,2001(03):217-218+223. (in Chinese)

[10] Vecchione, M., Alessandri, G., Barbaranelli, C., et al. A longitudinal investigation of egoistic and moralistic self-enhancement.Journal of Personality Assessment,2013,95(5): 506-512.

[11] Jia, Dongming, Kai Zhang, and Yuming Xu. "The Relationship Between Social Support and Relapse Tendency Among Those Who Struggle With Drug Addiction: Multiple Mediators of Exercise Self-Efficacy and Health-Related Quality of Life." Journal of Drug Issues (2023): 00220426231152912.

[12] Chen Qiao, Chen Xijing, Liu Wang, et al. Protective Mechanisms of Social Support Against Drug Addiction Relapse [J]. Chinese Journal of Drug Dependence, 2019(6): 403-408. (in Chinese)

[13] Atadokht A, Hajloo N, Karimi M, et al. The role of family expressed emotion and perceived social support in predicting addiction relapse[J]. International journal of high risk behaviors & addiction, 2015, 4(1): e21250.

[14] Rotter, J. B. (1990). Internal versus external control of reinforcement: A case history of a variable. American Psychologist, 45(4), 489-493.

[15] Prochaska, Judith J., et al.A relational agent for treating substance use in adults: Protocol for a randomized controlled trial with a psychoeducational comparator.Contemporary Clinical Trials 127 (2023): 107125.

[16] Epstein, Elizabeth E., and Barbara S. McCrady. Women's Group Treatment for Substance Use Disorder: Therapist Guide. Oxford University Press, 2023.

[17] Davis, Jordan P., et al. Addressing the opioid epidemic with behavioral interventions for adolescents and young adults: A quasi-experimental design.Journal of Consulting and Clinical Psychology 87.10 (2019): 941.

[18] Murthy, Pratima, Jayant Mahadevan, and Prabhat K. Chand. Treatment of substance use disorders with co-occurring severe mental health disorders.Current Opinion in Psychiatry 32.4 (2019): 293-299.

[19] Ray, Lara A., et al. Combined pharmacotherapy and cognitive behavioral therapy for adults with alcohol or substance use disorders: a systematic review and meta-analysis.JAMA network open 3.6 (2020): e208279-e208279.

[20] Li Xinxia. The influence of social support and psychological control source on the psychology of nursing graduate students [J]. Chinese Journal of Continuing Medical Education, 2019,13(11):48-51. (in Chinese)

[21] Wang R. Study on mental health and relapse tendency of male drug abusers [D]. East China Normal University, 2001.

[22] Wang Xiangdong. Mental Health Rating Scale Manual (revised edition) [M]. Beijing: China Mental Health Journal, 1999:267-275. (in Chinese)

[23] Wang Xiangdong. Internal-extrinsic Sources of Control Scale (revised edition) [M]. Beijing: China Journal of Mental Health, 1999:330.

[24] Wang Yi, Yang Kun, Huo Yujia. Study on the relationship between aggressive behavior, parental rearing style and parental psychological control of drug addicts [J]. Journal of Anhui University of Science and Technology (Social Science Edition),2023,25(03):30-36.

[25] Zhang W. An empirical study on the basic characteristics of drug addicts: from the perspective of social prevention [J]. Journal of Law,2018, 39(08):134-140.

[26] Zhu Haiyan, Zeng Tiande, Xie Kang et al. The influence of social support on relapse of drug abusers: Multiple mediating roles [J]. Journal of Minnan Normal University (Natural Science Edition), 2019,33(04):126-132.

[27] Jia Dongming, Jiang Zuzhen, Guo Song. The effect of social support on relapse tendency of drug abusers: the multi-mediating role of exercise self-efficacy and health-related quality of life [J]. Chinese Prison Journal, 2019,38(01):113-119.

[28] Mahajan S, Kaur A, Deepti S S, et al. Non-pharmacological approach for prevention of relapse during recovery in substance abuse: A study done at drug deaddiction center attached to a tertiary hospital[J]. National Journal of Physiology, Pharmacy and Pharmacology, 2021, 11(4): 411-415.

[29] Xia, Yuwei, et al. "Family function impacts relapse tendency in substance use disorder: Mediated through self-esteem and resilience." Frontiers in psychiatry 13 (2022): 815118.

[30] Huang, Dawei, et al.Social support and relapse tendency in Chinese women experiencing heroin addiction: A moderated mediation model of active coping strategies and openness to experience.The Social Science Journal(2020): 1-12.

[31] Lin Chului, Li Yongxin, Hu Yu. Research on the moderating effect of social support [J]. Psychological Science, 2004(05):1116-1119. (in Chinese)

[32] Yao W. Study on social support of drug addicts during detoxification and relapse [J]. Chinese Journal of Drug Dependence,2017,26(01):57-62.

[33] Qi Wenye, Ge Minggui, Dong Yukun. Social support and quality of life in 142 male drug abusers [J]. Soft Science of Health,2009,23(01):94-96.

[34] Zeng X, Tan C. The relationship between the family functioning of individuals with drug addiction and relapse tendency: A moderated mediation model[J]. International Journal of Environmental Research and Public Health, 2021, 18(2): 625.

[35] Liu Yang, Zhong Haowu, Glockenspiel, et al. The Influence of self-concept on relapse tendency of forced drug abusers: the mediating effect of sense of life meaning [J]. Chin J Drug Depend, 2019, 28(2): 139-143.

[36] Luo Jiming, Jin Zhi, Li Zhihong et al. Psychological control source and correlation analysis of drug abusers [J]. Chinese Journal of Drug Abuse Control,2006(03):131-133. (in Chinese)