

# Procrastination and Self-Efficacy Among Intravenous Drug Users on a Methadone Maintenance Program in Sari City, Iran, 2013

Fatemeh Taghizadeh<sup>1,\*</sup> and Jamshid Yazdani Cherati<sup>1,2</sup>

<sup>1</sup>Psychiatry and Behavioral Science Research Center, Addiction Institute, Mazandaran University of Medical Sciences, Sari, IR Iran

<sup>2</sup>Department of Health Sciences, Faculty of Health, Mazandaran University of Medical Sciences, Sari, IR Iran

\*Corresponding Author: Fatemeh Taghizadeh, Psychiatry and Behavioral Science Research Center, Addiction Institute, Zare Hospital, Neka Road, Sari, IR Iran. Tel/Fax: +98-1133285659, E-mail: tag.faty@yahoo.com

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## Abstract

**Background:** Self-efficacy is the belief that one has the ability to implement the behaviors needed to produce a desired effect. There has been growing interest in the role of self-efficacy as a predictor and/or mediator of treatment outcome in a number of domains. Procrastination is a self-regulatory failure, defined as the voluntary delay of an intended course of action despite expecting to be worse off for the delay. Behavioral procrastination is a self-sabotage strategy that allows people to shift blame and avoid action; the decisional procrastination strategy is to put off making a decision when dealing with conflicts or choices. Procrastination has a great role in quitting drug addiction.

**Objectives:** The aim of this study was to determine the relationship between procrastination and self-efficacy and other factors among intravenous drug users.

**Patients and Methods:** This cross-sectional study was conducted on 178 intravenous drug users in the behavioral disease counseling, health center in Sari city, Mazandaran province, Iran, in 2013. The samples were selected through census sampling, descriptive and inferential statistics were used to measure the properties of distribution that depicts a set of data shown as frequency distribution tables, while for the mean and standard deviation, chi-square, Fisher and Spearman-Brown coefficients were used to analyze the data.

**Results:** The mean age of the participants was 43 years. Seventy-two percent of them were married and opium was the first drug used. The first substance used in them was 54% of opium, 33% cannabis and 5% alcohol and 79% smoking. The reason of the first drug use in 32% of the subjects was temptation and in 10% a friend's influence. The mean age of the first drug use was 23 years, and the frequency was 2 times per day. All of them had relapse at least once. Seven percent of them currently use other materials (2% crystal, 5% alcohol and opium and crack) both in methadone treatment. Behavioral procrastination in 60.5% of them and decisional procrastination in 62% is from low to average range. There was a significant relationship between relapse and self-efficacy as well as between self-efficacy and the age of the first drug use, drug dose, and procrastination for treatment, marriage, employment and job. Also, the relationship between behavioral procrastination and self-efficacy was significant and inverse.

**Conclusions:** This study found a significant difference between procrastination and self-efficacy as well as other related factors. It is important to include drug users and the society organizations representing them in every stage of the governmental policy and program development process to make them responsive to the needs of the community.

**Keywords:** Intravenous Drug Abuse, Methadone Therapy, Procrastination, Self-Efficacy

## 1. Background

Drug abuse and addiction is a major global problem that ruins economy's health, relationships and career with several complications, including relapse that often remain untreated (1). The previous studies showed that there was a strong relationship between self-efficacy with addiction relapse (2). One of the most important factors that influence the rate of relapse is low self-efficacy in drug addicts. Self-efficacy is derived from social cognitive theory of a famous psychologist that refers to beliefs or judgments of individual about his capabilities to perform duties and responsibilities. Bandura argues that self-efficacy, which thereby can be constructive, cognitive skills, social, emotional and behavior for different goals, such regulation is effective. Self-efficacy theory predicts that treatment will

be effective when increasing the client's reasonable expectations of what can be achieved and continued (3).

Procrastination is a widespread phenomenon, occurring regularly at school, at work, and in our daily lives also, it is a self-regulatory failure, defined as the voluntary delay of an intended course of action despite the negative consequences of the delay (4). Such negative consequences of procrastination are related to missing deadlines (5), poor performance (4, 5), feelings of guilt and decreased mental health. One research has shown that there are two types of procrastination: behavioral procrastination, which is the delay of the completion of major and minor tasks, and decisional procrastination, described as the purposive delay in making decisions within some specific time frame (4).

### 1.1. Behavioral Procrastination

Behavioral procrastination is a self-sabotage strategy that allows people to shift blame and avoid action, for example: a student may do poorly on an exam and use procrastination as an excuse. "They'd rather create the impression that they lacked effort than ability," says Ferrari. "They can blame their failure on the lack of time" (5). Ferrari also thinks that procrastinators suffer from low esteem and self-doubt and worry about how other people judge their abilities. "Procrastinators view their self-worth as based on ability", he says. So, according to their logic, "If I never finish the task, you can never judge my ability". Prolonged procrastination and failure to perform adequately creates a cycle of self-defeating behavior, which results in a downward spiral of self-confidence. Self-inflicted degradation and shame of this kind often translates into stress and (mental) health problems at some point (6).

### 1.2. Decisional Procrastination

The decisional procrastination strategy is to put off making a decision when dealing with conflicts or choices. People who practice high level decision procrastination tends to be afraid of errors and are likely to be perfectionists. These procrastinators seek out more and more information about alternatives before attempting to make a decision, if they make one at all.

Over informed decisional procrastinators run the danger of falling prey to a further self-sabotage strategy, called optional paralysis: they create so many choices for themselves that they feel unable to choose, for fear of choosing an option that is less than perfect (6).

In the psychological research literature, procrastination has been defined as a distinctive form of delay. For example, in his meta-analysis, Steel draws together various construct definitions and concludes, combining these elements suggests that to procrastinate is to voluntarily delay an intended course of action despite expecting to be worse off for the delay of particular importance is the voluntary nature of the delay that is a necessary condition of procrastination. Most recently, notions of temporal discounting and aspects of task control have been explored as causative factors (7). We procrastinate when we have a lower expectancy of success at a task also diminished self-efficacy or self-confidence is associated with lower levels of motivation (8).

### 1.3. Self-Efficacy

The expectancy or self-efficacy items focused on assessing the degree that people believe that their efforts are rewarded. For example, "I can overcome difficulties with the necessary effort" and "When I put in the hours, I am successful." The value items focused on the meaningfulness and enjoyment of tasks and responsibilities. For example, "I do not find my work enjoyable" and "work bores me." For impulsiveness, nine of the highest loading items were drawn from susceptibility to temptation scale (7).

In the event of a slip, highly self-efficacious persons are inclined to regard the mistake as a temporary setback and to

reinstate control, whereas, those who have low self-efficacy are more likely to proceed to a full-blown relapse. In what follows, a number of relatively recent studies assessing the role of self-efficacy among abusers of various substances have been cited, but the list is not meant to be exhaustive (9).

## 2. Objectives

This study was carried out to determine the relationship between procrastination and self-efficacy and other factors among intravenous drug.

Since addiction is a stressful behavior and its role in increasing procrastination is obvious and so far independent research for behavioral and decisional procrastination with self-efficacy in addicts has not been conducted in Mazandaran Province, we decided to do this study.

## 3. Patients and Methods

This cross-sectional study was performed on all intravenous drug users referred to the state health department in Sari city, Mazandaran province, Iran, in 2013. The researchers examined the relationship between behavioral and decisional procrastination with self-efficacy and their relationship with some factors among intravenous drug users. The interviewers include two psychologists who work and are trained in this center. Psychosis was the exclusion criterion in addiction and 178 subjects were selected via census sampling in a governmental Health Maintenance Treatment Center for intravenous drug users in Sari city. Consent forms were completed by them and the purpose of the self-administered, behavioral and decisional procrastination questionnaires and self-efficacy questionnaire design and methods have been described for the drug addicts and were completed by them afterwards through an interview. This study was approved by the research committee of psychiatry and behavioral sciences research center of Addiction Institute in Mazandaran university of medical sciences.

In this study, five types of questionnaires were used as follows:

- 1- Epidemiology of subjects
  - 2- The questionnaire was related to drug abuse type, history of addiction, addiction withdrawal decision, withdrawal action and relapse.
  - 3- Standard questionnaire used for measuring self-efficacy
  - 4- Standard decisional procrastination questionnaire
  - 5- Standard behavioral procrastination questionnaire
- For checking reliability of the drug abuse questionnaire, internal consistency was used and reduced Cronbach's alpha was measured 0.88.

General self-efficacy scale consists of ten questions which has been used in several investigations in Iran, in this study the scores above 35 indicate high efficacy, below 30 low efficacy and the rest of the scores are average. Grading scores was performed using the Likert scale (1-4).

### 3.1. The procrastination Questionnaires

General procrastination scale (GPS) was used to assess behavioral procrastination in this study. The question-

naire has 20 questions. That is a self-reporting questionnaire, this kind of test has five options using a reverse scoring on the negative items. Reliability shows this scale has high constructive validity and predictive validity. The same study confirmed and reported an internal consistency Cronbach's alpha coefficient of 0.80 in Iran and the square Bartlett score of this test was 778.8 (10).

The Decision Procrastination Scale has five self-reported items designed and it was made to measure procrastination in decision-making situations. The materials on this scale were scored on a Likert scale and the high score indicate a higher level of procrastination. Internal consistency and the Cronbach's coefficient with the reliability of this scale was 0.78. The validity of this scale was assessed by factor analysis and principal components. The square Bartlett test was 330.57 which is statically significant ( $P < 0.001$ ). The validity of this scale was assessed by factor analysis and principal components. KMO (Kaiser-Meyer-Olkin) index was 0.75 and the square Bartlett test was 330.57 which is statically significant ( $P < 0.001$ ) (10).

### 3.2. Statistical Analysis

The findings were based on the type of data, quantitative continuous (age) discrete quantitative, such as frequency of use, and qualitative data like the level of education and occupation. Following the data, descriptive and inferential statistics were used as frequency distribution tables, while for the mean and standard deviation, chi-square, Fisher and Spearman- Brown coefficients were used to analyze the data. In inferential statistics, SPSS software was used.

## 4. Results

In this study, the mean age is 43 years old and its domain is between 22 - 77 years. Eighteen percent of the participants are single, 82% married, 74% self-employed, 21% unemployed and 5% retired. In terms of education, 7.5% are illiterate, 43% in primary or junior school, 43% with high school diploma and 6.5% with bachelor's degree

or higher education. The first substances used were 54% opium, 33% cannabis, 5% alcohol and 79% smoking. Fifty-eight percent of the participants used all substances and 7% of them currently use other materials (2% crystal, 5% alcohol, opium and crack) both in methadone treatment. The reason of the first drug use in 32% of the subjects was temptation and in 10% due to a friend (Table 1).

The mean age of the first drug use was 23 years (range 9 - 53 years), and the frequency was twice per day. The decision to quit the drug has an average of 7 years after the first use. While it takes 4.5 years to start treatment with methadone after deciding to quit.

After the first withdrawal, in average, it takes 7 months for users to reuse the drug. Addicts averagely have had 11 withdrawals and interval between their withdrawals was 7 months.

In 49%, one of the family members used drugs (16% were fathers and 25% brothers). Forty percent of drug-users at least once have been admitted to a hospital or treatment center. All of them had a rapid HIV test that in 5% of them was positive and 12% had sex at least once with a female sex worker.

Behavioral procrastination in 60.5% of them and decisional procrastination in 62% of them were from low to average range (Tables 2 and 3).

By Spearman test, the relationship between behavioral procrastination and self-efficacy was significant and inverse ( $P = 0.0001$ ). There was no significant relationship between the frequency of drug use in a day and the age of the first drug use with self-efficacy; however, there was a direct and significant relationship between drug quitting time and self-efficacy ( $P < 0.05$ ). The relationship between behavioral procrastination and decisional procrastination was significant and direct ( $P = 0.001$ ). The relationship between decisional procrastination and self-efficacy was significant and inverse ( $P = 0.001$ ). However, no significant relationship was found between age status and self-efficacy. The relationship between the intervals of quitting addiction and self-efficacy was significant and inverse ( $P = 0.05$ ). Moreover, no significant relationship was found between marital status and self-efficacy; however, self-efficacy in married participants was higher than the single ones.

**Table 1.** Methods of Substance Abuse and Reasons for Drug-Use<sup>a</sup>

Variables	Values
<b>The methods of substance abuse</b>	
Smoking	119 (79)
Oral	21 (14)
Inhalant	4 (3)
Injection	2 (1)
Others	5 (3)
Total	151 (100)
<b>The reasons for drug use</b>	
Temptation	48 (32)
Friends	15 (10)
Family problems	10 (7)
Fun	6 (4)
Work-related fatigue	4 (3)
Others	68 (44)
Total	151 (100)

<sup>a</sup>Data are presented as Frequency (%).

**Table 2.** The Average of Behavior and Decisional Procrastination

Range	Average	Variable
1.25 - 3.9	2.8 ± 0.5	Behavior procrastination
1 - 4.8	2.7 ± 0.9	Decisional procrastination

**Table 3.** The Scores of Behavior and Decisional Procrastination

Decisional Procrastination	Behavior Procrastination	Score
48 (32)	15 (9.9)	Low
45 (30)	90 (59.6)	Average
42 (28)	30 (19.9)	High
16 (11)	16 (10.6)	Missing
151 (100)	151 (100)	Total

## 5. Discussion

In this study, the samples include 18% of single individuals and 82% married. Also, 74% of them are freelancers, 21% unemployed and 5% pensioners. Also, in an Iranian research, in addicts 12% of men are unemployed (11). On father's education, 67% of them are either illiterate or in primary school level and also 66% of the mothers are either illiterate or in primary school level.

The first used drug is opium for 54% of men, marijuana 3%, alcohol 5% and smoking 79%. Opium was the most common used drug in our study, the total samples include 18% of single individuals and 82% married. Also, 74% of them were freelancers, 21% unemployed and 5% pensioners. In addition, in an Iranian research, 12% of the addicts were unemployed (11). With regard to their father's education, 67% of them were either illiterate or in primary school level and also 66% of the mothers were either illiterate or in primary school level. The first used drug was opium for 54% of men, marijuana 3%, alcohol 5% and 79% cigarette-smoking. Opium was the most common used drug in another study (12).

Table 1 shows that the cause of relapse after quitting was temptation for 32% of the samples, 10% friends and 17% emotional and domestic problems. In one study, the most important environmental causes of addiction relapse were sleeplessness, temptation, psychological distress, deficiency of confidence, feelings of futility and ramble (13). In a study, psychological parameters such as anxiety, stress, depression, feeling of losing something, availability of drugs, socializing with addict friends, a belief that they will not become an addict by using the drug once and self-examination were the most common factors of addiction relapse in Turkey (12). The mean age of the first drug use was 23 years old and the frequency was twice per day. After the first drug, it took 7 months to stop using the drug until relapse. Based on a past study, 53% of addicts relapsed addiction in 3 months and only 12% of them stay without drugs for more than 1 year and the average of quitting was 6.3 months (13). In another study, 72% of addicted men had relapsed (14).

A study reported that 35% of relapses occur in negative

emotions, 16% in conflicts with others, and 20% for social pressures (15). Another study concluded that the reasons of 62% - 73% of relapse episodes were under negative emotions and social pressures (15). One study reported that 35% of relapses occur in negative emotions, 16% in conflicts with others, and 20% for social pressures (14) reported that 35% of relapses occur in negative emotions, 16% in conflicts with others, and 20% for social pressures. Lowman et al. (15) concluded that the reasons of 62% - 73% of relapse episodes are under negative emotions and social pressures.

In a study in Iran, 33% of addicts have one time unsuccessful treatment, 38% of them have unsuccessful treatment 2 - 3 times, and 28.5% more than three times of unsuccessful treatment (13). In addition, another study reported 48.9% of men have addiction relapse within the first 4 months after quitting (11). Also, in our study, there was no significant relationship between the frequency of drug use in a day and the age of the first drug use with self-efficacy; however, there was direct and significant relationship between drug quitting time and self-efficacy ( $P < 0.05$ ). There was a significant and reverse relationship between counts of refers to the hospital because of drugs over dosage and self-efficacy. Also, there was no significant relationship between marital status and self-efficacy; however, self-efficacy in married subjects was higher than single ones. A number of relatively recent studies assessing the role of self-efficacy among abusers of various substances have been cited (9). A study from Iran investigated the relationship between confidence and self-efficacy with the health behavior of students in Yazd with higher self-efficacy in medical university students, their health scores increased. Also, a significant positive correlation was observed between health behavior and self-confidence in students (16).

Another study found that higher self-efficacy predicted less drug use only after 3 months but not after 6 months (17). In a study, low refusal self-efficacy has been associated with increased marijuana consumption (18). Other study showed that self-efficacy was a relatively strong

predictor of post-treatment abstinence and the frequency of marijuana use (9).

A previous study reported a negative relationship between self-efficacy and relapse to alcohol use, but not for relapse to drug use (19). In a study comparing four treatment approaches for marijuana dependence (20), while replicating the common finding that high self-efficacy was correlated with longer periods of abstinence. In this study, the relationship between self-efficacy and interval of relapses was significant.

Given the low level of self-efficacy in this study and its relationship with the number of relapses, specifies the need for interventions to increase these variables in addicts. However, higher self-efficacy predicted less drug use only after 3 months but not after 6 months (17). In a study of the effectiveness of step-down continuing care following residential or intensive outpatient care, there was little evidence to support step-down continuing care itself (18). Also, self-efficacy was a relatively strong predictor of post-treatment abstinence and the frequency of marijuana use (21). In a study, individuals who reported initiating marijuana use at older ages had significantly higher levels of marijuana self-efficacy ( $\beta = 0.149, P < 0.05$ ) (21).

Consistent with other studies, the results suggest that self-efficacy factor is an important factor towards relapsed addiction among addicts (2). Self-efficacy and self-esteem, in one study both variables were associated with procrastination, both in the expected direction and the expected degree. Self-efficacy showed the strongest relationship, with meta-analytic review giving its average correlation with procrastination (20). In our study, behavioral procrastination in 60.5% of them and decisional procrastination in 62% of them is low and in average range. Another study showed that the students who recorded high levels of self-efficacy assessed their goal achievement as being high. As a consequence of high goal achievement, self-efficacy increased. Self-efficacy mediated the effect of perceived goal achievement on procrastination. Thus, the students with low perceived self-efficacy are vulnerable for finding themselves in a vicious circle of procrastination (22). One study showed that in line with the definition of procrastination as a combination of delaying to work on a task and discomfort with the delay, affective well-being was better predicted by self-report than by behavioral procrastination. This study suggests that self-reported procrastination better reflect the construct than a purely behavioral measure of procrastination (23) also in our study, the relationship between behavioral procrastination and decisional procrastination is significant and direct ( $P = 0.001$ ). Decisional procrastination is a maladaptive style of deferring a decision in case of an encounter with conflicts and choices. Substantial evidence suggests that people higher in decisional procrastination would take longer time in making decisions. Two principal categories of decisional procrastination were provided, one category highlights the social context in which the decision is to be made and the other deals with individual factors and correlates (24).

The results of a study showed that procrastination and self-efficacy are related to psychological vulnerability also the result of multiple regressions showed that procrastination and self-efficacy explained 40% of the variance of psychological vulnerability in students (22). In our study, the relationship between behavioral procrastination and self-efficacy was significant and inverse ( $P = 0.0001$ ) and the relationship between behavioral procrastination and decisional procrastination was significant and direct ( $P = 0.001$ ). Many studies have shown that self-efficacy is a predictor of treatment outcome. In some cases, self-efficacy has been found to predict the quantity of alcohol or drugs consumed. In other studies, self-efficacy significantly predicts alcohol consumption for periods of up to twelve months (25, 26). However, another study showed that higher self-efficacy predicted less drug use only after 3 months but not after 6 months (17).

With regard to the relationship between procrastination and self-efficacy in this study, it means that serious efforts should be done to restructure weak self-efficacy and procrastination to help enable the drug addicts to be stronger when faced with life challenges after their release. Although the findings of this study are important for the stakeholders in public health, it is also essential to conduct future studies with larger sample sizes. This study found that there was a significant difference between procrastination and self-efficacy as well as the other related factors.

Given the low level of self-efficacy in this study and its relationship with procrastination, specifies the need for interventions to increase these variables in addicts.

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## Authors' Contributions

Fatemeh Taghizadeh conceived and designed the evaluation, collected and interpreted the clinical data, drafted and revised the manuscript. Jamshid Yazdani Cherati performed the statistical analysis, participated in the interpretation of clinical data and revised the manuscript critically for important intellectual content. Both authors read and approved the final manuscript.

## Declaration of Interest

None declared.

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