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Factors Affecting Substance Abuse Treatment Across Different Treatment Phases

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Abstract

The effective therapy of substance abuse is attributed to a wide range of factors. A relevant bibliography review has highlighted those factors, which are most commonly employed by mental health professionals: Readiness (recognition, taking steps, ambivalence), Self-efficacy, Expectation about the therapy outcome, Satisfaction by the therapy treatment, Perceived Social Support, Depression/Anxiety/Stress levels of the client (clinical profile), Positive and Negative Emotions and the way in which clients realize the Meaning of Life. These factors have been thoroughly researched for the purposes of the current study during the different treatment stages of a residential treatment program. The sample included 157 clients. In total, four measurements of the factors have been conducted in the three basic stages of treatment (Counseling Centre, Residential Phase, Social Re-integration). The analysis of the Binary Logistic Regression Design revealed a statistically significant affect in factors, such as Meaning of Life (transition process from Counselling Centre to Residential Phase), Recognition and Sex (retention in the Residential Phase), Expectation, Stress and Satisfaction (completion of Residential Phase), Taking Steps, Satisfaction, Social Support and Depression (staying in Social Integration Phase) The findings of the study both confirm the important role already recognized factors play in treatment and present the impact new factors can have on the therapeutic outcome.

Key words: treatment factors, repeated measurements, stages of treatment

Introduction

Substance abuse represents one of the major psychosocial problems of our days. The thorough study of the phenomenon reveals a series of theoretical models analyzing and interpreting addiction. Although there are numerous ways of treating addiction (open programmes, pharmaceutical treatment/substitutes therapy, close

residential programmes-therapeutic communities, selfhelp groups, natural recovery) and respectively a variety of sensitization and educational interventions preventing it, both the etiology and the change mechanisms developed by substance abusers during treatment remain unexplored (Flora, 2011).

Therefore, an effective treatment process could be easily deemed as one of the major challenges in contemporary research and clinical practice. The effectiveness of treatment is assessed upon the clients' personal monitoring of the treatment and their dedicated participation for a sufficient period of time.

Literature review

Addiction, as well as its etiopathogeny and possible treatment methods have already been thoroughly studied by researchers. This study examines the psychosocial factors implicating in the treatment of addiction.

The systematic study of addiction treatment for the past 30 years, seven factors emerged as the most important.. These are:

- the client's readiness to commit to treatment (i.e. his/her ability to realize the addiction problem and take some steps towards changing)
- the trust he/she can overcome difficult situations and challenges (self-efficacy)
- the expectation of the treatment results and the respective satisfaction gained from these results during and at the end of the therapeutic procedure
- the social support perceived and experienced by the

client

- the clinical profile of the patient (i.e. depression or stress levels, negative or positive emotions, which constitute an unexplored field of study concerning addiction)
- and, finally, the way in which clients undergoing treatment realize the meaning of life and search for it

Studies have shown that the afore-mentioned factors both linked to the best and worst possible treatment results for a client. As far as the interaction between each factor and the addiction treatment is concerned, most studies indicate that readiness for therapy (DiClemente & Scott, 1997) self-efficacy (Long, Hollin & Williams, 1998; Izquierdo, de Osma, Arnedillo & Cotaberria, 2001; Burleson & Kaminer, 2005; Ilgen, McKellar & Moos, 2007; Solomon & Annis, 1990), expectations on the treatment outcome (Colon & Massey, 1988; Dearing, Dearing, Barrick, Dermen, & Walitzer, 2005; Dohnke, Muller-Fahrnow & Knauper, 2006; Joe, Flynn, Broome & Simpson, 2007; Jones et al., 2001; Joyce & Pipher, 1998) and the perceived social support (Majer, Jason, Ferrari, Venable, & Olson, 2002) are directly associated with positive results in treatment, such as longer and more committed engaging in treatment.

Nevertheless, other, yet fewer studies have shown that readiness cannot determine the possible treatment outcome (Becker, 2006), high self-efficacy levels can be found among those clients refusing to accept therapeutic help and trying to treat themselves (Peele, 1983d), high expectations are connected to poorer therapeutic results (Brown, 1985; Jones, Corbin & Fromme, 2001;

Rychtarik, Prue, Rapp & King, 1992; Solomon & Annis, 1990; Whorley, 1996) while low levels of perceived social support (combined with high self-efficacy) can lead to a longer staying of the client in a close residential treatment programme (David & Jason, 2005).

A wide series of studies has revealed that patients suffering from co-occurring mental disorders and substance abuse disorders are likely to show poorer treatment results than those patients, who are not presenting psychopathological symptoms, including decreased pace in moderating drug abuse, increased vulnerability to drug relapse and need of more health care services (Alterman, McLellan & Shiffman, 1993; Bobo, McIlvain, & Leed-Kelly, 1998; Greenfield, Muenz et al., 1998; Lossen, Dew & Prange, 1990; Moos, Mertens & Brennan, 1994 ; Rounsaville, Kosten, Weissman et al., 1986; Hasin, Tsai, Endicott et al., 1996 ; Driessen, Meier, Hill et al., 2001; Willinger, Lenzinger, Hornik et al., 2002). However, there are some findings indicating that depression and stress can be associated with a better treatment outcome (Araujo, Goldberg, Eyma, et al., 1996; Charney, Paraherakis & Gill, 2000; Finney & Moos, 1995).

On the other hand, there are findings suggesting that the positive course of therapy is affected by a client's accumulating experience of positive emotions, subjective strength and sense of freedom within the residential treatment programme (e.g. Ravenna, Hölzl, Kirchler, Palmonari, & Costarelli, 2002). Moreover, researchers have underlined the importance of developing positive prospects and meanings during the addiction treatment,

in which spirituality must be taken into account as a constituent part of life. DuPont and McGovern (1992) supported that not only addiction but addiction treatment as well have spiritual dimensions. This thesis has also been supported by the work of other researchers, such as Green, Fullilove & Fullilove (1998), Bowden (1998) Finfgeld (2002a). Recovery marks the redirection of the self and the way the client relates to the world; it is what Marcus describes in her paper (1998) as “changing careers”. Other researchers pay more attention to the client’s spiritual evolution and how this affects the changes in life, the feelings of closeness, compassion and self-efficacy during the ongoing fight against the addiction problem (McMillen, Howard, Nower & Chung, 2001).

All in all, the interaction of these variables seems to play a major role in the addiction and recovery. What is more the role of emotions has not been studied, and yet positive emotions seem to be implicated in change. The interaction may differ in different phases of therapy and that has not been studied.

Rationale

All above mentioned factors have been separately researched. However, the possible combinations amongst the seven factors and their effect on the treatment process remain a rather unknown territory. In addition to this, factors highlighted in the current paper, such as the experience of positive and negative emotions, are also lacking proper probe and understanding in terms of affecting the overall treatment process. Bearing in mind that withdrawal is a process full of constant relapses, it is

absolutely necessary to recognize and further explore the factors predicting the client's engaging in, staying in and completing treatment, in order to better understand and define their role in the treatment process and their potential differentiation over time.

Subsequently one of the emerging research questions concerns the factors which are affecting the transition process from one phase of treatment to the other. More particularly, the question aims to answer the following:

1. Which factors affect the successful transition from the first phase of treatment (Counseling Centre) to the second one (Residential Phase)?
2. Which factors affect the client's retention in the main part of treatment (Residential Phase)?
3. Which factors affect the completion of the Residential Phase and the transition to the next phase of Social Re-integration?
4. Which factors affect the retention of the client in the Social Re-integration Phase?

Method

Sample

Participants of the study were patients undergoing treatment in the Drug Addiction Treatment Unit (adult rehabilitation) of the public Psychiatric Hospital of Attica, Athens. In numbers, the total sample included 157 patients, who met the criteria of "Substance Use Disorder", according to DSM-IV. The diagnosis was conducted by the professional psychiatrists of the Attica Hospital and the results were presented to the researchers

of the study along with the demographic data of each participant. No patient had a history of comorbid disorders. From the participants 80.3 percent were men (n=126) and 19.7 percent were women (n=31). Their average age was 30.03 years old (SD=5.1). 54.1 percent (n=85) of the participants were new patients undergoing treatment for the first time, while 45.9 percent (n=72) included patients, who were undergoing this particular treatment for the second or even third time. Furthermore, 75.1 percent (n=118) of the sample had attempted to follow an addiction treatment before (in any type of therapeutic centre of community).

Research instruments

The first part of this paper focuses on presenting the choosing of the proper psychometric tests, which was based on their repeated use in different clinical researches, on their psychometric validity and on their compatibility with the needs of the current project.

The employed scales were the following:

1. Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES), (Miller, 1994, Miller & Tonigan, 1996). Subscales: Problem Recognition, Taking Steps, Ambivalence.
2. Brief Situational Confidence Questionnaire (BSCQ) (Breslin, Sobell, Sobell & Agrawa, 2000).
- 3 α . Client Satisfaction Questionnaire (CSQ) at Pre-treatment (Expectations) (Dearing et al, 2005).
- 3 β . Client Satisfaction Questionnaire (CSQ-8) (Larsen,

Attkinson, Hargreaves & Nguyen, 1979).

4. Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet, Dahlen, Zimet & Farley, 1988).

Subscales: Family, Friends, Important others.

5. Depression Anxiety Stress Scale (DASS) (Lovibond & Lovibond, 1995). Subscales: Depression, Anxiety and Stress.

6. Differential Emotions Scale-Modified (DES-MOD) (Fredrickson & Tugade, 2003). Subscales: Positive Emotions and Negative Emotions.

7. Meaning in Life Questionnaire (MLQ) (Steger, Frazier & Oishi, 2006). Subscales: Search for meaning and Presence of meaning.

The scales employed in this particular study are not yet officially translated into Greek. Therefore, their credibility and validity were estimated upon a translation from English into Greek and a reverse translation from Greek into English conducted by 11 Greek mental health professionals who speak English fluently, after completing their postgraduate studies in the UK. Before the final analysis, the translated scales were examined and assessed by a group of 11 clinical psychiatrists (Msc), who verified the accuracy and validity of the terminology and its content.

The identified correlations between the English (prototype) and Greek (translated) scales resulted in the

forming of the following correlation indicators for each scale:

- Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES), $r= 0.966$
- Brief Situational Confidence Questionnaire (BSCQ), $r= 0.957$
- Client Satisfaction Questionnaire (CSQ) at Pre-treatment (Expectations), $r= 0.973$
- Client Satisfaction Questionnaire (CSQ-8), $r=0.978$
- Multidimensional Scale of Perceived Social Support (MSPSS), $r= 0.985$
- Depression Anxiety Stress Scale (DASS), $r= 0.944$
- Differential Emotions Scale-Modified (DES-MOD) (Fredrickson & Tugade, 2003), $r= 0.953$
- Meaning in Life Questionnaire (MLQ) (Steger, Frazier & Oishi, 2006), $r=0.937$.

Preliminary Analysis

To assess and certify the psychometric tests' and their occurring results' reliability and internal consistency, a variable analysis, a Cronbach's α measure and a normal distribution control were conducted.

Factor Analysis:

Results have shown that this type of analysis reveals in most cases the number of factors relevant to the original analysis of the structure of the scales.

Cronbach's α measure: The internal consistency indicators of the subscales proved accurate, while the Greek scale models met the consistency requirements set by their producers. In particular, the Cronbach's α indicators for each subscale were the following:

-Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES)

Subscales: Readiness, ($\alpha= 0.844$), Ambivalence ($\alpha=0.831$), Taking Steps ($\alpha=0.809$)

-Brief Situational Confidence Questionnaire (BSCQ), ($\alpha=0.812$)

-Client Satisfaction Questionnaire (CSQ) at Pre-treatment (Expectations), ($\alpha= 0.812$)

-Client Satisfaction Questionnaire (CSQ-8), ($\alpha=0.825$)

-Multidimensional Scale of Perceived Social Support (MSPSS),

Subscales: Significant Others ($\alpha= 0.789$), Family ($\alpha= 0.839$), Friends ($\alpha=0.859$), Total ($\alpha=0,829$)

-Depression Anxiety Stress Scale (DASS),

Subscales: Stress ($\alpha= 0.824$), Anxiety ($\alpha=0.796$), Depression ($\alpha= 0.804$), Total ($\alpha=0.808$)

-Differential Emotions Scale-Modified (DES-MOD)

Subscales: Positive Emotions ($\alpha= 0.809$), Negative Emotions ($\alpha=0.779$)

-Meaning in Life Questionnaire (MLQ).

Subscales: Presence of Meaning ($\alpha= 0.780$), Searching of Meaning ($\alpha= 0.813$)

Procedure

The research procedure was completed with respect to the American Psychiatric Association's ethics and rules (APA). Before proceeding with the basic measurements,

the scales were distributed to people belonging to the same group of participants, i.e. substance abusers, who decided to undergo treatment.

The main part of the procedure builds upon repeated measurements of the factors. In total, the research lasted for 21 months, from February 2008 to November 2009.

The main research procedure included four assessments:

- The first assessment was completed during the first stages of treatment, described as Counseling Centre. In this stage all of the seven factors have been assessed.
- The second and the third assessment took place during the third and sixth month of the second phase of treatment (Residential Phase) respectively. All seven factors have been evaluated in this measurement, apart from the factor of expectation, which was replaced by the factor of satisfaction.
- The fourth assessment was conducted during the third month of the Social Re-integration Phase, which follows the successful conclusion of the Residential Phase. The same factors from the second and third assessment were assessed at this assessment.

Table 1: *Number of individuals (per each phase and measurement)*

(N=157)	Individuals in phases		Participants
Counseling Centre	157	1 st measurement	133 (84.71%)
Residential Phase	142 (90.44%)		
		2 nd measurement (3 months)	112 (71.33%)
		3 rd measurement (6 months)	91 (57.96%)
Social Re-integration Phase	91 (57.96%)	4 th measurement	65 (41.40%)
(3months)			

Results/Findings

In total 157 participants attended the first stage of the addiction treatment therapy (Counseling Centre). Out of this number, only 133 patients were included in the first measurement. 142 patients attended the second stage of treatment (Residential Phase), out of which 112 completed the psychometric tests in the first three months, while 91 did so after a six-month period. The final stage of Social Re-integration was attended by 91 people, out of which 65 were included in this particular research project.

Preliminary Control

To assess and certify the psychometric tests' and their occurring results' reliability and internal consistency, a variable analysis, a Cronbach's α measure and a normal distribution control were conducted.

Factor Analysis: Results have shown that this type of analysis reveals in most cases the number of factors relevant to the original analysis of the structure of the scales.

Cronbach's α measure: The internal consistency

indicators of the subscales proved accurate, while the Greek scale models met the consistency requirements set by their producers.

Normal Distribution Control: According to the Kolmogorov-Smirnov Test, eight of the subscales followed a normal distribution, while nine did not. However, the latter subscales have been also considered to be congruent with the Kolmogorov-Smirnov test, given that they have included a sample of more than 30 participants ($N > 30$ – The Law of Large Numbers: the average of the results obtained from a large number of trials should be close to the expected and will tend to become closer as more trials are performed).

In order to answer the above-mentioned research question on the factors' impact on treatment and subsequently highlight the statistical differences between the clients who gave up treatment and those who completed it, the Crosstabulation-Chi-Square and Independent Samples T-Test were employed. The two tests were followed by five separate Binary Logistic Regression analyses relating to the five transition stages from one treatment phase to the other.

The results are being presented per research sub-querie:

Transition from Counseling Centre to Residential Phase. The Binary Logistic Regression model showed that the increased rates in the factor “Searching of Meaning” during the first stage of treatment are inversely proportional to the successful transition of the client to the next phase of treatment. Participants experiencing

doubts over their lives' meaning during Counseling Centre are less likely to move forward to the Residential Phase.

Table 2:

Variables affecting the transition process from Counseling Centre to Residential Phase

Variables in the Equation

	B	Wald	P
Recognition	,128	1,495	,221
Self-efficacy	,002	,010	,919
Searching of Meaning	-,282	4,569	,033
Constant	6,897	1,995	,158

Variables entered on the model: Recognition, Self-efficacy, Searching of Meaning.

Residential Phase: Staying in treatment for three months. In this stage of treatment, the Binary model showed that male participants and clients recognizing their addiction problem are more likely to stay longer in the Residential Phase.

Table 3:

Variables affecting the staying in of clients in the Residential Phase

Variables in the Equation

	B	Wald	P
Sex	-2,038	3,536	,050
Age	-,191	1,853	,173
Recognition	,177	1,791	,181
Ambivalence	,148	1,652	,199
Taking Steps	,021	,026	,871
Self-efficacy	,001	,007	,932
Expectation	-,042	,093	,760
Social Support	,054	,326	,568
Stress	,033	,291	,590
Anxiety	-,077	1,488	,222
Depression	0,01	,000	,683
Positive Emotions	-,025	,167	,798
Presence of	,023	,065	,852
Meaning Searching of	-,015	,035	,408
Meaning			

Constant	,060 3,237	,686 ,259	,611
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Variables entered on the model: Sex, Age, Recognition, Ambivalence, Taking Steps, Self-efficacy, Expectation, Social Support, Anxiety, Depression, Stress, Positive Emotions, Negative Emotions, Presence of Meaning, Searching of Meaning

Table 4:
Variables affecting the staying in the 3-months-long Residential Phase

Variables in the Equation			
	B	Wald	P
Recognition	,108	3,682	,050
Taking Steps	,049	,835	,361
Constant	-4,337	1,755	,013

Variables entered on the model: Recognition, Taking Steps

Completion of Residential Phase – Transition to Social Re-integration Phase. As far as the completion of the Residential Phase is concerned, the Binary Logistic Regression revealed that clients, who had higher expectations of a positive therapeutic outcome in the first stage of treatment (Counseling Centre), felt less stress in the beginning and were less satisfied by the Residential Phase therapy process, tend to successfully complete this phase and move on to the next one. Clients, who are not particularly satisfied with the Residential treatment phase, are most probably assuming greater personal responsibility for their recovery and are more reluctant to fully commit themselves to treatment.

Table 5:
Variables affecting the completion of Residential Phase and the transition to Social Re-Integration Phase

Variables in the Equation			
	B	Wald	P
Recognition	,266	1,299	,254
Ambivalence	,202	1,410	,235
Taking Steps	-,187	,933	,334
Self-efficacy	,028	1,402	,236
Expectation	,554	4,129	,042
Social Support (significant other)	-,035	,088	,767

Social Support (family)	-,085	,896	,344
Social Support (friends)	-,092	1,307	,253
Stress	-,224	4,414	,036
Anxiety	,088	1,060	,303
Depression	,160	3,329	,068
Positive Emotions	,164	2,833	,092
Negative Emotions	-,135	1,030	,310
Presence of Meaning	-,101	1,141	,285
Searching of Meaning	,036	,172	,678
Satisfaction	-,302	4,145	,042
Constant	7,447	1,276	,259

Variables entered on the model: Recognition, Ambivalence, Taking Steps, Self-efficacy, Expectation, Social Support (significant other), Social Support (family), Social Support (friends), Anxiety, Stress, Depression, PositiveEmotions, Negative Emotions, Presence of Meaning, Searching of Meaning, Satisfaction

Social Re-integration: Staying in treatment for 3 months. According to the Binary Regression model, a client's decision to stay in treatment for three months during the Social Re-integration Phase is directly connected to the increased rates recorded in Taking Steps and feeling more Satisfaction, as well as to the decreased perceived Social Support (significant other) and the increased Depression levels in the beginning of the Residential Phase.

Table 6:
Variables affecting the staying in the 3-months-long Social Re-integration Phase

	Variables in the Equation		
	B	Wald	P
Sex	11,035	,045	,832
Age	,233	,444	,505
Recognition	-,411	1,780	,182
Ambivalence	-,231	,982	,322
Taking Steps	,596	4,841	,028
Self-efficacy	-,003	,008	,927
Satisfaction	,788	4,371	,037
Social Support (significant other)	-1,086	6,991	,008
Social Support (family)	-,348	3,670	,055
Social Support (friends)	,146	,842	,359
Stress	-,255	2,813	,094
Anxiety	-,212	1,254	,263
Depression	,419	5,242	,022
Positive Emotions	,139	,846	,358
Negative Emotions	,267	1,537	,215
Presence of Meaning	,094	,187	,665
Searching of Meaning	-,092	,232	,630
Constant	-19,927	,134	,714

Discussion

The findings of several studies confirm the important role the factor Readiness for Change can play in predicting the final therapeutic outcome (DeLeon, Melnick, Thomas, Kressel & Wexler, 2000; Avants, Margolin, Kosten, 1996; DeLeon, Melnick, Kressel & Jainchill, 1994; Mattson, Del Boca, Carroll, et al., 1998) , since the better recognition of the problem as well as the steps towards changing are directly affecting the transition from one treatment phase to the other. More specifically, recognizing the addiction and taking the necessary steps to recover from it seem to be extremely crucial for each client in the early stages of treatment (Counseling Centre and early Residential Phase). These two parameters can have an impact on the treatment course, even as far as the Social Re-integration Phase is concerned. As demonstrated by the descriptive statistics, clients with previous treatment experience are more apt to recognize their addiction, since there is hardly any doubt left over the existence or seriousness of their problem; these clients commence their therapeutic efforts with full awareness and personal insight on their addiction and

recovery. Most substance abusers undergoing a residential treatment program are underestimating the extent of their addiction problem. Clinical observance has shown that clients are often aware of the different levels of addiction and usually see themselves in a more favorable light than the “average abuser”. However, recognizing the addiction problem and taking the subsequent steps towards changing are the two basic features required for a client to start, continue and complete the overall treatment procedure.

A further observation revolves around the major part Negative Emotions and clinical issues can have in determining the therapeutic outcome. Stress, anxiety and depression in the early stages of treatment (Counseling Centre and early Residential Phase) are disrupting the normal treatment process in its final stages. Most findings suggest that the existence of negative emotions is deterring patients from staying in treatment for a longer period of time. The less these negative emotions are dominant in the individual in the beginning of treatment, the more chances they have to stay in treatment (D’Andrea & D’Andrea, 1996; Goeders, 2004; McKay, 2005). In a relative manner, increased positive emotions found in an individual in the early stages of treatment are congruent with the client’s staying in treatment until the completion of the Residential Phase. As concerns the sex factor, the collected data support that male clients are most likely to stay in treatment, which is partly justified by the impaired clinical profile of the female clients. Though less in number, the female participants of the study entered the treatment program having a long substance abuse history and being in a terrible physical and mental condition. For those women managing to stay in treatment, the therapeutic process is quite satisfactory and their course encouraging. As concerns the factor of depression, retesting showed that the more symptoms expressed in the beginning of the Residential Phase, the better a client’s chances are of staying in the Social Re-integration Phase. Although this finding is *prima facie* paradoxical, it casts light on the complicated impact a negatively charged emotional condition can have on the addiction treatment. At this point it needs to be clarified that therapy is not considered a linear process affected by factors with a distinct negative or positive impact. Although negative emotions predict the discontinuation of the Residential Phase, their effect seems to decrease during the Social Re-integration Phase, where other factors seem to be more essential, such as social relations. This leads to the conclusion that each factor can assume a different effect in each treatment phase. Therefore, given the complexity of

the nature and pathology of substance abuse, depression symptoms in particular treatment phases can actually aid the continuance of therapy. If depression is defined by low mood and aversion to activity, lack of optimism and abandonment of once pleasurable interests, one cannot help but wonder how these symptoms could really have a positive effect on treating addiction.. Findings extracted from the beginning of the Residential Phase have revealed difficulties in adapting to the requirements of the psychological treatment. In such cases, symptoms of depression could reflect a general feeling of concern and temporary disappointment, which would, however, have no negative effect on a client's staying in treatment. Moreover, clinical observation has shown that excessive enthusiasm and feelings of over-optimism often lead substance abusers to quit the addiction treatment. Older research findings confirm the positive role depression can play in the treatment of addiction (Kranzler et al., 1996; Rounsaville et al., 1986; Westermeyer et al., 1997) as well as the usually emerging difficulties in evaluating and measuring this particular factor (Kranzler et al., 1996; Rounsaville et al., 1986; Miller, Hoffman, Ninonuevo et al., 1997 ; Sellman & Joyce, 1996).

The factors of expectation and patient satisfaction from therapy are also highlighted in this particular residential treatment program. More specifically, high degrees of expectation in the end result of the treatment program are strongly related to the completion of treatment. Despite that high expectations could also negatively affect the continuation of treatment, in many cases the respective findings reveal the positive impact this factor can actually have (Colon & Massey, 1988; Dearing et al., 2005, Dohnke et al., 2006; Joe et al., 2007; Jones et al., 2001; Joyce & Pipper, 1998). Upon entering the Residential Phase, correlations begin to alter in a similar manner as in the case of depression. Low levels of satisfaction in the beginnings of the Residential Phase are connected to the successful completion of this stage of treatment and passing on to the Social Re-integration Phase. On the contrary, high levels of satisfaction expressed during the Residential Phase are usually predicting the client's longer staying in the Social Re-integration Phase. Following the procedural theory of satisfaction to evaluate the above-mentioned findings (satisfaction is defined as a dynamic interaction between the client's expectations in therapy and the following experiences gained during treatment) (McLellan & Hunkeler, 1998; Ries, Jaffe, Comtois & Kitchell, 1999, Ross, Frommelt,

Hazelwood & Chang, 1987), it is suggested that low levels of satisfaction in the beginning of the Residential Phase are the result of the afore-mentioned concerns, skepticism and criticism on behalf of the client, which prove absolutely essential for the completion of this phase. Therefore, the exactly opposite and rather plausible finding would suggest that factors gain or lose in importance in light of the special characteristics and needs of each treatment phase. The perceived Social Support is yet another factor playing a less obvious but equally major role in affecting a client's decision to stay in the Social Re-integration Phase. Low levels of perceived social support are linked to a longer staying in treatment (David & Jason, 2005) and result from the lack of alternative sources of support, the trust a client puts in therapy, the absence of constant pressures from the social environment and the personal strength and initiatives taken on behalf of the client. Moreover, the study has shown that clients, who were living with their parents at first, experience more stress and less positive emotions. Parental interference has been also related to decreased levels of self-efficacy (Lopez-Torrecillas, Bulas, Leon-Arroyo & Ramirez, 2005). Finally, realizing the perceived social support as an auxiliary means instead of simply recognizing it can add to the positive outcome of the addiction treatment.

Although self-efficacy has been repeatedly linked to the best possible therapeutic outcome (Long et al., 1998, Long, Williams, Midgley & Hollin, 2000, Izquierdo et al., 2001; Burlinson & Kaminer, 2005; Ilgen et al., 2007; Rychtarik et al., 1992; Solomon & Annis, 1990), the study presented in this paper reveals that this factor negatively predicts the transition from the first treatment phase (Counseling Centre) to the Residential Phase. This finding in the initial phase of treatment is consistent with Peele's perceptive remark (1983d) that high levels of self-efficacy are evident in those clients who refuse to accept therapeutic help and try to cure themselves. Limitations in foreseeing the therapeutic outcome during the early stages of treatment do not subordinate self-efficacy in the slightest as a factor because its levels increase gradually and progressively over time.

Transition from the first phase of treatment (Counseling Centre) to the second and most important one (Residential Phase) was marked by the astounding finding suggesting that the factor Search of Meaning has a negative effect on the addiction treatment. Retesting confirmed the validity of this finding. Search of Meaning during treatment is connected to looking for positive goals and creating new ways of understanding life. Moreover,

this factor does not seem to play a key role in the transition processes of the next phases of treatment. Therefore, it is assumed that decreased levels of Search of Meaning might predict the transition from the Counseling Centre to the Residential Phase, since during this phase searching for positive meanings may not be boosting concentration, recognition of the problem and development of adequate motivation to change, coexist with others and commit oneself to a given type of time-consuming treatment.

All in all, the present study confirmed that recognizing the addiction problem is of major importance, while it also highlighted the complex attributes and impact other factors can have on the addiction treatment, such as social support, satisfaction from treatment, self-efficacy and Meaning of Life. In addition to this, the study revealed the qualitative differences traced among each treatment phase, which seem to affect each factor differently in terms of encouraging or discouraging the continuation of treatment. Future studies could focus more on obtaining a deeper and more complete image of the ways in which factors interact with one another and each treatment phase perhaps by employing more complex statistical analysis models, e.g. Structural Equation Model.

References

- Alterman, A.I., McLellan, A.T., Shifman, R.B. (1993). Do substance abuse patients with more psychopathology receive more treatment? *Journal of Nervous and Mental Disease* 181, 576–582.
- Araujo, L., Goldberg, P., Eyma, J., et al. (1996). The effect of anxiety and depression on completion withdrawal status in patients admitted to substance abuse detoxification program. *Journal of Substance Abuse Treatment* 13, 61–66.
- Avants, S.K., Margolin, A., Kosten, T.R. (1996). Influence of treatment readiness on outcomes of two pharmacotherapy trials for cocaine abuse among methadone maintained patients. *Psychol Addict Behav.*, 10, 147–156.
- Becker, D. (2006). The relationship between readiness to change and relapse prevention outcome: A continuum approach with an alcohol treatment group

Dissertation Abstract: 2006-99010-078.

Bobo, J.K, McIlvain, H.E, Leed-Kelly, A. (1998). Depression screening scores during residential drug treatment and risk of drug use after discharge. *Psychiatric Services*, 49, 693–695.

Bowden, J.W. (1998). Recovering from alcoholism: a spiritual journey. *Issues in Mental Health Nursing*, 19, 337–352.

Breslin, F.C. Sobell, L.C., Sobell, M. B., Agrawa, I. S. (2000). A comparison of a brief and a long version of the Situational Confidence Questionnaire. *Behaviour Research and Therapy*, 38 (12), 211-220.

Brown, S.A. (1985). Reinforcement expectancies and alcoholism treatment outcome after one year follow up. *Journal of studies on Alcohol*, 46(4), 304-308.

Burleson, J.A., Kaminer, Y., (2005). Self-efficacy as a predictor of treatment outcome in adolescent substance use disorders. *Addictive Behaviors*, 30(9), 1751-1764.

Charney, D.A., Paraherakis, A.M. & Gill, K.J. (2000). The treatment of sedative-hypnotic dependence: evaluating clinical predictors of outcome. *Journal of Clinical Psychiatry*, 61,190–195.

Colon, I. & Massey, R.K. (1988). Patient attitudes and beliefs as predictors of treatment outcome in detoxification: A pilot study. *Alcoholism Treatment Quarterly*, 5(3-4), 235-244.

D'Andrea, L.M., D'Andrea, L.R. (1996). Prediction of treatment outcome using state-trait anxiety inventory scores: The use of discriminant analysis. *Journal of Addictions & Offender Counseling*, 16(2), 50-61.

Davis, B.J. (2006). An exploration of quality of life, motivation to change, and client satisfaction as during-treatment measures of change for individuals undergoing treatment for substance abuse. *Dissertation Abstract International, Section B: The Sciences and Engineering*, 67 (3-B), 1696.

Davis, M.I. & Jason, L.A. (2005). Sex Differences in Social Support and Self-Efficacy Within a Recovery Community. *American Journal of Community Psychology*, 36 (3-4), 259-274.

Dearing, R.L., Barrick, C., Dermen, K.H. & Walitzer, K. S. (2005). Indicators of Client Engagement: Influences on Alcohol Treatment

Satisfaction and Outcomes, *Psychology of Addictive Behaviors*, 19 (1), 71-78.

DeLeon, G., Melnick, G., Kressel, D., Jainchill, N. (1994). Circumstances, motivation, readiness, and suitability (the CRMS scales): predicting retention in therapeutic community treatment. *Am J Drug Alcohol Abuse*, 20, 101–106.

DeLeon, G., Melnick, G., Thomas, G., Kressel, D., Wexler, H. K. (2000). Motivation for treatment in a prison-based therapeutic community. *Am J Drug Alcohol Abuse*, 26, 33–46.

DiClemente, C.C. & Scott, C.W. (1997). Stages of change: interaction with treatment compliance and involvement. In L.S. Onken, J.D. Blaine, & J.J. Boren, (eds.), *Beyond the Therapeutic Alliance: Keeping the Drug-Dependent Individual in Treatment*. Rockville, MD: National Institute on Drug Abuse.

Dohnke, B., Muller-Fahrnow, W. & Knauper, B. (2006). The influence of outcome expectancies and self-efficacy on rehabilitation after a hip replacement [Der Einfluss von Ergebnis- und Selbstwirksamkeitserwartungen auf die Ergebnisse einer Rehabilitation nach Hüftgelenkersatz] *Zeitschrift für Gesundheitspsychologie*. 14(1), 11-20.

Driessen, M, Meier, S, Hill A., et al. (2001). The course of anxiety, depression, and drinking behaviours after completed detoxification in alcoholics with and without comorbid anxiety and depressive disorders. *Alcohol and Alcoholism*, 36, 249–255.

DuPont, R.L. & McGovern, J.P. (1992). Suffering in addiction: alcoholism and drug dependence. In P.L. Starck PL & J. P. McGovern (Eds), *The Hidden Dimensions of Illness: Human Suffering*, (pp. 155–201), New York: National League for Nursing.

Finfgeld, D.L. (2002a). Feminist spirituality and alcohol treatment. *Journal of Holistic Nursing*, 20, 113–127.

Finney, J.W. & Moos, R.H. (1995). Entering treatment for alcohol abuse: A stress and coping model. *Addiction*, 90, 1223–1240.

Forcehimes, A. & Tonigan, S. (2008). Self-Efficacy as a Factor in Abstinence from Alcohol/Other Drug Abuse: A Meta-Analysis. *Alcoholism Treatment Quarterly*, 26 (4), 480-489.

- Fredrickson, B.L. & Tugade, M.M. (2003). What Good Are Positive Emotions in Crises? A Prospective Study of Resilience and Emotions Following the Terrorist Attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology*, 84 (2), 365–376.
- Goeders, N.E. (2004). Stress, Motivation, and Drug Addiction. *Current Directions in Psychological Science*, 13 (1), 33–35.
- Green, L.L., Fullilove, M.T. & Fullilove, R.E. (1998). Stories of spiritual awakening. The nature of spirituality in recovery. *Journal of Substance Abuse Treatment*, 15, 325–331.
- Greenfield, S.E., Weiss, R.D., Muenz, L.R. et al. (1998). The effect of depression on return to drinking: a prospective study. *Archives of General Psychiatry*, 55, 259–265.
- Hasin, D.S., Tsai, W.Y., Endicott, J. et al. (1996). The effects of major depression on alcoholism: five-year course. *American Journal on Addictions*, 5, 144–155.
- Ilgen, M., McKellar, J. & Moos, R. (2007). Personal and Treatment-Related Predictors of Abstinence Self-Efficacy. *Journal of Studies on Alcohol and Drugs*, 68(1), 126-132.
- Izquierdo, F. M., de Osma, F. J., Arnedillo, J. J., Cotaberría, A.M. (2001). Self-concept, self-esteem, locus of control and self-efficacy in alcohol dependence. [Spanish]. *Anales de Psiquiatria*, 17(4), 153-161.
- Joe, G.W., Flynn, P.M., Broome, K.M. & Simpson, D.D. (2007). Pattern of drug use and expectations in methadone patients. *Addictive behaviours*, 32(8), 1640-1656.
- Jones, B.T., Corbin, W & Fromme, K. (2001). A review of expectancy theory and alcohol consumption, *Addiction*, 96, 57-72.
- Joyce, A.S. & Pipher, W.E. (1998). Expectancy, the therapeutic alliance, and treatment outcome in short-term individual psychotherapy. *Journal of Psychotherapy Practice & Research*. 7(3), 236-248.
- Kranzler, H.R., Del Boca, F.K. & Rounsaville, B.J. (1996). Comorbid psychiatric diagnosis predicts three-year outcomes in alcoholics: a posttreatment natural history study. *Journal of Studies on Alcohol*, 57, 619–626.

Larsen, D.L., Attkisson, C.C., Hargreaves, W.A. & Nguyen, T.D. (1979). Assessment of client/patient satisfaction: Development of a general scale. *Evaluation and Program Planning*, 2, 197-207.

Long, C.G., Hollin, C.R., Williams, M.J. (1998). Self-efficacy, outcome expectations, and fantasies as predictors of alcoholics' posttreatment drinking. *Substance Use & Misuse*, 33(12), 2383-2402.

Long, C.G., Williams M., Midgley, M. & Hollin, C.R. (2000). Within program factors of drinking outcome following cognitive-behavioral treatment. *Addictive behaviours*, 25(4), 573-8.

Loosen, P.T., Dew, B.W., Prange, A.J. (1990). Long-term predictors of outcome in abstinent alcoholic men. *American Journal of Psychiatry* 147, 1662–1666.

Lopez-Torrecillas, F., Bulas, M., Leon-Arroyo, R., Ramirez, I. (2005). Influence of family support on substance abuser self-efficacy. [Spanish] *Adicciones*, 17(3), 241-249.

Lovibond, S.H. & Lovibond, P.F. (1995). *Manual for the Depression Anxiety Stress Scales*. (2nd. Ed.) Sydney: Psychology Foundation.

Majer, M.J., Jason L.A., Ferrari, J.R., Venable, L.B. & Olson, B.D. (2002). Social support and self-efficacy for abstinence: is peer identification an issue? *Journal of Substance Abuse Treatment*, 23(3), 209-215.

Marcus, M.T. (1998). Changing careers: becoming clean and sober in a therapeutic community. *Qualitative Health Research*, 8, 466–480.

Mattson, M.E, Del Boca, F.K, Carroll, K.M, et al. (1998). Compliance with treatment and follow-up protocols in Project MATCH: predictors and relationship to outcome. *Alcohol Clin Exp Res.*, 22, 1328–1339.

McKay, J.R. (2005). Co-occurring substance dependence and depression: practical implications and next questions. *Addiction*, 100 (12), 1755–1757.

McLellan, A.T. & Hunkeler, E. (1998). Patient satisfaction and outcomes in alcohol and drug abuse treatment. *Psychiatric Services*, 49, 573-575.

McMillen, C, Howard, M.O., Nower, L. & Chung, S. (2001). Positive byproducts of the struggle with chemical dependency. *Journal of Substance Abuse Treatment* 20, 69–79.

Miller, W.R. (1994). SOCRATES: The stages of change readiness and treatment eagerness scale. Albuquerque, NM: Department of Psychology, University of New Mexico.

Miller, N.S., Hoffman, N.G., Ninonuevo, F., et al (1997). Lifetime diagnosis of major depression as a multivariate predictor of treatment outcome for inpatients with substance use disorders from abstinence-based programs. *Annals of Clinical Psychiatry*, 9, 127–137.

Miller, W.R., & Tonigan, J.S. (1996). Assessing drinker's motivation for change: The stages of Change Readiness and Treatment Eagerness Scale (SOCRATES). *Psychology of Addictive Behaviors*, 10, 81-89.

Moos, R.H., Mertens, J.R., Brennan, P.L. (1994). Rates and predictors of four-year readmission among late-middle-aged and older substance abuse patients. *Journal of Studies on Alcohol*, 55, 561–570.

Peele, S. (1983d). Out of the habit trap. *American Health* (September/October), 42-47.

Ravenna, M., Hölzl, E., Kirshler, E., Palmonari, A. & Costarelli, S. (2002). Drug addicts in therapy-Changes in life space in the course of one year. *Journal of Community & Applied Social Psychology*, 12, 353–368.

Ries, R.K., Jaffe, C., Comtois, K.A. & Kitchell, M. (1999). Addictions services: Treatment satisfaction compared with outcome in severe dual disorders. *Community Mental Health Journal*, 35, 213-221.

Rounsaville, B.J., Anton S.F., Carrol, K., et al. (1991). Psychiatric diagnoses of treatment-seeking cocaine abusers. *Archives of General Psychiatry*, 48, 43–51.

Rounsaville, B.J., Kosten, T.R., Weissman, M.M., et al. (1986). Prognostic significance of psychiatric disorders in treated opiate addicts. *Archives of General Psychiatry* 43,739–745.

Ross, C. K., Frommelt, G., Hazelwood, L., & Chang, R. W. (1987). The role of expectations in patient satisfaction with medical care. *Journal of Health Care Marketing*, 7, 16-26.

Rychtarik, R.G., Prue, D.M., Rapp, S.R., & King, A.C. (1992). Self-efficacy, aftercare and relapse in a treatment program for alcoholics. *Journal*

of Studies on Alcohol, 53, 435-440.

Sanders, L.M., Triuh, C., Sherman, B. R & Banks S.M. (1998). Assessment of client satisfaction in a peer counseling substance program for pregnant and postpartum women. *Evaluation and Program Planning*, 21(3), 287-296.

Sellman, J.D.& Joyce, P.R. (1996). Does depression predict relapse in the months following treatment for men with alcohol dependence? *Australian and New Zealand Journal of Psychiatry*, 30, 573–578.

Smith, C.L. (2003). Motivation, self-efficacy, and treatment engagement among individuals with alcohol dependency. *Dissertation Abstracts International: Section B: The Sciences and Engineering*. 64(1-B), 432.

Solomon, K.E. & Annis, H.M. (1990). Outcome and efficacy expectancy in the prediction of post treatment drinking behaviour. *British Journal of Addiction*, 85, 659-665.

Steger, M.F., Frazier, P. & Oishi, S. (2006). The Meaning in Life Questionnaire: Assessing the Presence of and Search for Meaning in Life. *Journal of Counseling Psychology*, 53(1), 80–93.

Taylor, C.C. (1999). An analysis of urban smokable cocaine client's perception of intensive out-patient treatment dynamics and treatment outcome. *Dissertation Abstracts International, Section A: Humanities and Social Sciences*, 60 (2-A), 0351.

Westermeyer, J., Kopka, S. & Nugent, S. (1997). Course and severity of substance abuse among patients with comorbid major depression. *American Journal on Addictions*, 6, 284–292.

Whorley, L.W. (1996). Exploring inpatient expectations of continuing care treatment: Focus groups with substance-dependent veterans. *Alcoholism Treatment Quarterly*. 14(2), 59-66.

Wiklund, L. (2008b). Existential aspects of living with addiction – Part II: caring needs. A hermeneutic expansion of qualitative findings. *Journal of Clinical Nursing*, 17, 2435–2443.

Willinger, U., Lenzinger, E., Hornik, K., et al. (2002). Anxiety as a predictor of relapse in detoxified alcohol-dependent patients. *Alcohol and Alcoholism* 37, 609–612.

Zimet, G.D., Dahlen, N.W., Zimet, S.G. & Farley, G.K. (1988). The

Multidimensional Scale of Perceived Social Support, *Journal of Personality Assessment*, 52, 30-41.