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DEGLI STUDI  
DI PADOVA

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Department of Philosophy, Sociology, Education and Applied Psychology

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*Substance Use Disorder and Future Life Prospective*

**Supervisor:** Prof. Laura Nota

**Ph.D. student:** Ilaria Di Maggio

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## **ABSTRACT**

The aim of this research project is to provide a better understanding of the mechanisms involved in the promotion of life satisfaction in adults with Substance Use Disorder (SUD). Life satisfaction can be considered an important diagnostic and outcome criterion in substance use disorder issues but also in vocational rehabilitation issues (Assari & Jafari, 2010; Laudet, Morgen, & White, 2006; Smith & Larson, 2003; Rudolf & Watts, 2002; Savickas et al., 2009). The treatment aims to reach patients' recovery, which is defined as abstinence plus improved life satisfaction (Laudet, 2011). Moreover, to have a satisfying future life, it is also the principal future goal of people with SUD (e.g., Laudet, Savage, & Mahmood, 2002; Laudet, Morgen, & White, 2006). However, re-designing, and getting positive future scenarios after treatment is not always easy for people with SUD because of the many barriers that they can experience, such as barriers at level of client (for example, the lack of work's experiences, unrealistic career goals, low levels of self-esteem, low problem-solving skills) of program (for example, rigidity of treatment) and of social context (prejudice against drug users, problems of the labor market, economic crisis) (Earnshaw, Smith, Chaudoir, Amico, & Copenhaver, 2013; European Observatory on Drugs, 2013; Graham, 2006; Richardson, Wood, Montaner, & Kerr, 2012; Sgaramella, Ferrari, & Ginevra, 2015).

Considering this, vocational rehabilitation interventions have a crucial role to help people with Substance Use Disorder to design a new and satisfying life. For this reason, and based on the Life Design paradigm that can be considered a career and vocational parading for all people with and without a specific vulnerability or disorder, the role of career adaptability, hope, courage on life satisfaction was investigated in adults with and without SUD. With this aim, two studies were carried out.

In the first study, the attention was focused on career adaptability and hope and their relationship with life satisfaction in individuals with SUD. More specifically, based on Porfeli and Savickas's suggestions (2012) and based on Rudolph, Lavigne, and Zacher's (2017) meta-analysis and Santilli, Nota, Ginevra, and Soresi's study (2014) using a multi-group method, the mediating role of hope on the relationship between career adaptability and life satisfaction in a group of individuals with SUD was tested and simultaneously the invariance of this model across individuals with and without SUD was verified. The results obtained showed that despite adults with SUD have lower levels of career adaptability, hope and life satisfaction in respect to adults without SUD, the mediation model tested was invariant in adults with and without SUD.

In the second study, attention was focused on courage. Specifically, based on Peterson, Ruch, Beermann, Park, & Seligman's study (2007), the predictive role of courage on life satisfaction was tested, using a multivariate regression analysis, beyond the addiction condition. The analysis carried out showed that courage predicts in positive ways life satisfaction beyond the addiction variable and other control variables such as "age" and "years of education". These results are in line with Seligman and colleagues (Seligman, 2002; Seligman & Csikszentmihalyi, 2014; Savickas et al., 2009) that affirm the need to bring the building of strength to the forefront in the treatment of mental illness and in vocational programs. Additionally, personal stories of courage reported by a group of individuals with SUD were analyzed in order to identify themes, meanings, and types of courage performed. The qualitative and quantitative analysis carried out showed that individuals with SUD described more frequently courageous behaviors in overcoming psychological risks than physical and moral risks, especially when these stories were referred to the addiction rather than to other life situations. These results were in line with Putman's assumptions (2004; 2010). More specifically, for Putman, taking on addiction requires more psychological courage in respect to moral and physical courage, in particular to face challenges related to their past experiences and choices but also to face challenges related to personal and professional future planning.

The main theoretical implication of this research project was to study the positive and predictive role of relevant constructs in vocational rehabilitation intervention such as career adaptability, hope, courage on life satisfaction, for the first time, in adults with SUD. Considering that life satisfaction is believed to be an important diagnostic and outcome criteria in substance use disorder issues (Assari, & Jafari, 2010; Laudet et al., 2006; Rudolf & Watts, 2002; Smith & Larson, 2003), it is possible to hypothesize that the results obtained in this research project can provide a main theoretical implication in substance use disorder issues. As regards the applicative implication, this research project provide useful information to plain intervention to increases life satisfaction and core ability for future life designing in people with SUD.

## PROLOGO

Lo scopo del seguente progetto di ricerca è stato quello di studiare i meccanismi coinvolti nella promozione della soddisfazione di vita in adulti con Disturbo da Uso di Sostanza (Substance Use Disorder – SUD). La soddisfazione di vita può essere considerata un importante criterio diagnostico e di efficacia del trattamento nel Disturbo da Uso di Sostanza e nei programmi di riabilitazione professionale (Assari & Jafari, 2010; Laudet, Morgen, & White, 2006; Smith & Larson, 2003; Rudolf & Watts, 2002; Savickas et al., 2009). Di fatto, i differenti trattamenti nel campo delle dipendenze mirano al recupero, definito come il raggiungimento di uno stato di astinenza e una maggiore soddisfazione di vita (Laudet, 2011). Inoltre, il desiderio di una vita futura soddisfacente e di qualità è anche uno dei principali obiettivi futuri delle persone con SUD (e.g., Laudet, Savage, & Mahmood, 2002; Laudet et al., 2006). Tuttavia, “ridisegnare” e “immaginare” scenari futuri positivi dopo il trattamento non è sempre facile per le persone con SUD a causa delle molte barriere che possono sperimentare a livello personale (ad esempio, la mancanza di esperienze lavorative, obiettivi irrealistici, bassi livelli di autostima, basse abilità di problem solving), a livello degli interventi riabilitativi (ad esempio, rigidità del trattamento) e a livello del contesto sociale (ad esempio: pregiudizi contro i consumatori di sostanze, problemi del mercato del lavoro, crisi economica) (Earnshaw, Smith, Chaudoir, Amico, & Copenhaver, 2013; European Observatory on Drugs, 2013; Graham, 2006; Richardson, Wood, Montaner, & Kerr, 2012; Sgaramella, Ferrari, & Ginevra, 2015).

In considerazione di ciò, gli interventi di riabilitazione professionale hanno un ruolo cruciale per aiutare le persone con SUD a progettare una vita nuova e soddisfacente. Per questa ragione, basandosi sul paradigma del Life Design, che può essere considerato un modello teorico-pratico di orientamento e progettazione professionale pensato per tutte le persone, siano essi con e senza una specifica vulnerabilità o sindrome, è stato indagato in adulti con e senza SUD il ruolo della career

adaptability, della speranza e del coraggio sulla soddisfazione di vita. A tale scopo sono stati condotti due diversi studi.

Nel primo studio ci si è focalizzati sull'analisi delle relazioni esistenti tra la career adaptability, la speranza e la soddisfazione di vita in persone con SUD. Nello specifico, basandosi sulle teorizzazioni di Porfeli e Savickas (2012), sul lavoro di metanalisi di Rudolph, Lavigne, e Zacher's (2017) e infine, sullo studio di Santilli, Nota, Ginevra, e Soresi (2014), utilizzando un metodo di analisi multi-gruppo, è stato analizzato l'invarianza del modello di mediazione tra la career adaptability, la speranza e la soddisfazione di vita in adulti con e senza SUD. I risultati ottenuti mostrano che nonostante le persone con SUD presentino più bassi livelli di career adaptability, speranza e soddisfazione di vita rispetto al gruppo di adulti senza SUD, il modello di mediazione analizzato risulta essere invariante nei due gruppi.

Nel secondo studio, ci si è focalizzati invece sul coraggio, una nuova dimensione positiva enfatizzata recentemente all'interno del paradigma del Life Design. Basandosi sullo studio di Peterson, Ruch, Beermann, Park, & Seligman (2007) si è analizzato il ruolo predittivo del coraggio e della dipendenza da uso di sostanze sulla soddisfazione di vita. Le analisi di regressione multipla condotte mostrano come il coraggio, al di là di variabili di controllo come l'età e gli anni di studio e al di là della condizione di dipendenza, sia un forte predittore dei livelli di soddisfazione di vita delle persone con e senza SUD. Questi risultati sono in linea con Seligman e colleghi (Seligman, 2002; Seligman & Csikszentmihalyi, 2014; Savickas et al., 2009) i quali sottolineano il bisogno di puntare allo sviluppo di punti di forza, come il coraggio, nei programmi di cura e riabilitazione.

Inoltre, sono state analizzate le storie personali di coraggio riportate da un gruppo di adulti con SUD, al fine di indentificare i temi, i significati e i diversi tipi di coraggio ad esse sottostanti. Le analisi qualitative e quantitative condotte mostrano come le persone con SUD riportino più frequentemente comportamenti coraggiosi al fine di superare rischi psicologici rispetto a quelli fisici e morali, in particolare quando le loro storie sono riferite alla loro condizione di dipendenza da

sostanze rispetto ad altre situazioni di vita. Tali risultati sono in linea con le teorizzazioni di Putman, (2004; 2010), il quale afferma che affrontare una dipendenza richiede principalmente un coraggio di tipo psicologico rispetto ad altri tipi di coraggio in quanto accettare la propria condizione di dipendenza richiede di affrontare sfide legate ad un passato difficile e ad un futuro imprevedibile; tali sfide possono mettere a dura prova la stabilità psicologica della persona.

La principale implicazione teorica di questo progetto di ricerca è stata quella di analizzare, per la prima volta, il ruolo predittivo dei costrutti rilevanti all'intervento dei programmi di riabilitazione professionale come la career adaptability, la speranza, il coraggio sulla soddisfazione di vita in adulti in trattamento con SUD. Considerando che la soddisfazione di vita è definita come un importante criterio diagnostico e di efficacia dei programmi di riabilitazione e cura all'uso di sostanza (Assari, & Jafari, 2010; Laudet et al., 2006; Rudolf & Watts, 2002; Smith & Larson, 2003), è possibile ipotizzare che i risultati ottenuti nel seguente progetto di ricerca possano fornire importanti implicazioni teorico pratiche nelle campo delle dipendenze. Per quanto riguarda, più nello specifico, il risvolto applicativo del seguente progetto di ricerca, gli studi condotti forniscono informazioni utili per la messa a punti di interventi in materia di orientamento e progettazione professionali volti ad aumentare la soddisfazione di vita e la capacità di progettazione futura delle persone in trattamento per SUD.



## **Substance Use Disorder and Future Life Prospective**

### **Introduction**

For many years, vocational designing and career counseling experts considered both individuals and employment contexts to be rather stable, and that – at least in wealthier nations – a wide range of work opportunities are available to all. The main career counseling approach, thus, focused on examining individual interests and various supply and demand criteria, attempting to ensure that both employers and potential employees experience a certain degree of mutual satisfaction. Researches and applications in vocational and career fields have been developed along these lines, with the aim of satisfying all the parts involved – for example, students and school agencies, workers and employers, citizens and nations, people and businesses, etc. For a long time, career advisors developed theoretical models and professional practices to walk an equidistant line between employee's interests and aptitude, intrinsic and extrinsic motivation, and also between personal and individual desires and public and social expectations. Specifically, different models in vocational issues are focused on stable personality traits using person and occupation profiles to diagnose the best 'person–environment-fit' (e.g. Holland, 1997).

Moreover, career choice and development theories were generally designed for people who enjoy a degree of choice in their lives (Blustein, 2011). As a matter of fact, , vocational guidance, career education and career counseling scholars have actually neglected to apply the results of their research and their theoretical models to populations with vulnerability. Very few studies were devoted to looking for ways to increase these individuals' likelihood of experiencing satisfactory life conditions and professional realization. In this regard, Blustein (2001) has said that: "we have developed an elegant science about the work lives of a small proportion of individuals... neglecting the work lives of the rest of humanity" (Blustein, 2001, p. 171).

For some time now, however, prospects for growth and development in many Western nations have been showing signs of radical change. More specifically, the economic crises and the technological revolution of the twenty-first century has generated intense changes in the labor market and has made it more complex for individuals to adapt to work and make occupational choices (Savickas, 2011). As a matter of fact, today, the factors of instability and insecurity are structurally characterizing the occupational landscape rendering some individuals at higher risk than others, and among these there are the adults with Substance Use Disorder (DSM-V; 2013). An Italian research (2013) claims that about the 70% of people in treatment for SUD is unemployed or has an occasional job. This higher rate of unemployment in this kind of population in respect to people without vulnerability is probably due to the higher number of barriers that they encounter in finding and keeping a job, in particular in the current competitive world of work, such as low levels of education, lack of work's experiences, unrealistic career goals, low levels of self-esteem, problem-solving, decision making, rigidity of treatment, prejudice against drug users and so on (Richardson, Wood, Montaner, & Kerr, 2012). Moreover, the greatest concern reported by the same people with SUD in treatment sessions concerns the future and its planning (Laudet, Morgen, & White, 2006). In Regard to this, the national anti-drug 2013 action plan and the European action plan (2017) consider the social and job re-integration as fundamental elements of the new intervention strategies in Substance Use Disorder's issues. However, redesigning, imagining and planning new and positive future scenarios after treatment is not easy for people with SUD due to the barriers they may encounter but also due to the intrinsic challenges of today's competitive world of work.

Today's social, economic and political changes have set new challenges in everybody's future planning, also raising, as a consequence, the risk to be excluded both socially and in the world of work for people with the highest vulnerability. These changes have been taken into consideration by many scholars who, meeting for the first time in 2009, have tried to design a new paradigm dealing with the topic of vocational and career counseling, with the aim to create a theoretical-practical

approach (the “Life Design Approach”) that could efficaciously face the new challenges that the social and economic reality was putting in front of everyone, in particular in front of those who, for different reasons, appear to be more vulnerable. In the following pages, after having provided a diagnostic overview of the substance use disorder, the attention will be directed towards the interventions of vocational rehabilitation which final goal is to reintegrate people in treatment with SUD both socially and in the world of work. Attention will be also focused on what The Life Design Approach sustains and underlines in order to increase social and work inclusion and life satisfaction in people with and without vulnerability.

### **Diagnostic framework and Substance Use Disorder.**

Substance Use Disorder (SUD) includes 10 different classes of drugs (e.g. cannabis, cocaine, heroin, alcohol) and regardless of the particular substance, it can be defined as a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual continues using the substance despite significant substance-related problems (DSM V, 2013).

Generally, the diagnosis of a substance use disorder is based upon a pathological set of behaviors related to the use of that substance. Following the DSM V (2013), these behaviors can be divided into four main categories:

- **Impaired control.** Impaired control may be evidenced in several different ways: 1) Using drug for longer periods of time than intended, or using larger amounts than intended; 2) Wanting to reduce use, yet being unsuccessful doing so; 3) Spending excessive time getting/using/recovering from the drug use; 4) Cravings that are so intense desire or urge for the drug that may occur at any time. Craving is often used as a treatment outcome measure because it may be a signal of impending relapse.
- **Risky use of the substance.** The individual may continue substance use despite the knowledge of having a persistent or recurrent physical or psychological problem that is likely

to have been caused or exacerbated by the substance. The key issue in evaluating this criterion is not the existence of the problem, but rather the individual's failure to abstain from using the substance despite the difficulty it is causing.

- **Pharmacological criteria** refer to the Tolerance and Withdrawal mechanisms. Tolerance is signaled by requiring a markedly increased dose of the substance to achieve the desired effect or a markedly reduced effect when the usual dose is consumed. Withdrawal is a syndrome that occurs when concentrations of a substance decline in an individual who has maintained prolonged heavy use of the substance. Tolerance and Withdrawal development varies across different individuals as well as across substances.
- **Social impairment.** Social impairment is one type of substantial harm (or consequence) caused by the repeated use of a substance or an activity. More specifically, people may continue to use it despite having problems with work, school or family/social obligations. This might include repeated work absences, poor school performance, neglect of children, or failure to meet household responsibilities. Addiction may also be indicated when someone continues substance use despite having interpersonal problems because of the substance use. This could include arguments with family members about the substance use or losing important friendships because of continued use. Important and meaningful social and recreational activities may be given up or reduced because of substance use. A person may spend less time with their family, or they may stop playing golf with their friends.

The diagnostic criteria presented are applied in all cases of substance addiction beyond the specific substance involved in the addiction, underpinning a common set of consequences on the social and psycho functioning of the consumer beyond the single or many substances used. Moreover, in order to have a better understanding of the effects of the repeated use of drugs, it may be useful to investigate the consequences that the use may have on the physical and psychological health of consumers. In this regard, the examination of literature reveals a series of problems that can

affect people with SUD as a consequence of the repeated use of a substance. First, typically, people with SUD showed many problems related to medical health issues, such as infarction, hypertensive peaks, endocarditis, ictus, immunodeficiency, rhinoplasty, malnutrition, HIV infection, overdose, leading the person to continuous hospitalization and serious health conditions which are often aggravated by the continued use of drugs (Macias et al., 2014). The use of drugs can also cause a neurological and cognitive deficit. Typically, people with SUD showed deficit in problem solving skills, memory, learning, planning, decision-making (Hyman 2014; Rinn, et al., 2014; Kim et al., 2012). Moreover, the presence of disorders in relation to SUD is also frequent, such as depression and schizophrenia (; Barrowclough et al, 2014; DSM V, 2013). In terms of social life, as already seen in the diagnostic criteria, the recurring use of substance can cause many problems such as limited social network and social skills, history of crimes related to trafficking, theft and aggression, prejudice by family members/friends/employers/colleagues, losing job, difficulties in planning future life and career (Drake, 2014; Natan et al., 2009; Brener et al., 2010; Graham, 2006; Earnshaw, Smith, Chaudoir, Amico, & Copenhaver, 2013; Richardson et al., 2012; Sgaramella et al., 2015; Kim, 2013). Additionally, the negative implications associated with substance use have an impact on the whole individual functioning, causing a condition of suffering . As a matter of fact, , in literature it is possible to find many studies that showed how people with SUD generally experience low levels of satisfaction and quality of life compared to a healthy population (Brogly, Mercier, Bruneau, Palepu, and Franco, 2003; Havassy & Arns, 1998; Ventegodt & Merrick, 2003; Falk, Wang, Carson, & Siegal, 2000) but also compared to people with chronic diseases (Smith & Larson, 2003).

Finally, in the SUD issues it is important to understand the risks and benefits associated with a single drug focus on multiple drug focus in the diagnostic, intervention and research process (Rounsaville, Petry & Carroll, 2003).

### **Single versus multiple drug in substance abuse.**

Generally, in literature, in particular in the past, the approach for pharmacotherapy or behavioral therapy efficacy research has been used to target a single abused substance. Patients with current dependence on other substances or multiple substances are often excluded from efficacy trials. As reported by Rounsaville, Petry, and Carroll's (2003) meta-analysis study. All this has generated a gap between clinical and research, because if researchers can select their participants, clinicians must take patients as they present themselves and attempt to manage the full range of a patient's clinically significant substance abuse. As a matter of fact, as already denounced by several scholars for many years (e.g. Caetano & Weisner, 1995; Cunningham-Williams, Cottler, Compton, Spitznagel, & Ben-Abdallah, 2000; Martin et al., 1996; Rounsaville et al., 2003; Tsuang, Shapiro, Smith, & Schuckit, 1994), substance abusing patients who exclusively abuse a single substance are unrepresentative of the general population of substance abusers in community and clinical settings. Both population and clinical surveys indicate that the majority of those with a current substance use disorder, use multiple psychoactive substances and meet current or lifetime criteria for a number of substance use disorders (Connors, DiClemente, Velasquez, & Donovan, 2013; Rounsaville et al., 2003;). More specifically, Rounsaville et al. (2003) in their meta-analysis indicate that 30–60% of alcohol-dependent individuals abuse cocaine, 20–50% abuse marijuana, 12–20% abuse benzodiazepines and 7–10% abuse heroin. Prevalence of marijuana abuse in cocaine-dependent patients ranges from 25 to 70%, and lifetime prevalence of alcohol dependence exceeds 65% in both treatment-seeking cocaine users as well as those not seeking treatment. 50, 33, 47 and 69% of heroin-dependent patients are regular users of alcohol, benzodiazepines, cocaine, and marijuana, respectively. Cigarette smoking is also common, with up to 63–90% of treatment-seeking substance abusers reporting daily nicotine use. Thus, abuse of multiple substances is the rule and not the exception. Recruiting a sample of 'pure' substance abusers poses feasibility issues, as only a small subset of clinical or community abusers will meet this criterion. Moreover, even if a sample can be recruited, singly dependent patients are likely to be

unrepresentative of the general population of drug abusers in ways that limit the generalization of findings (Connors et al., 2013; Rounsaville et al. 2003).

As regards the pharmacotherapies, failure to study a heterogeneous population leaves safety and efficacy issues unanswered. A new drug may have toxic or other interactions with non-targeted abused substances. Examining the effects of pharmacotherapies on multiple classes of drugs may also reveal unexpected beneficial effects, as medications may reduce the use of other drugs than the targeted one via direct or indirect mechanisms. In this regard, for example, studies conducted at the end of the nineties and the beginning of the two-thousands involving multiple drug users, showed as methadone maintenance treatment is associated with not just reductions in opioid use, but also with a decrease in other drug use, such as cocaine and benzodiazepines as well (Ball & Ross, 1991). Naltrexone can be used for treating both opioid (Greenstein, Fudala, & O'Brien, 1997) and alcohol (Volpicelli, Alterman, Hayashida, & O'Brien, 1992) dependence. Disulfiram has shown some efficacy in reducing alcohol use (Chick et al., 1992), as well as cocaine use (Carroll et al., 2000; George et al., 2000). These studies showed that although the mechanisms of action may differ across the drug classes, the beneficial effects could only be discerned by including polysubstance abusers in the trials and evaluating the effects of these medications on use of multiple substances. These discoveries have been of crucial importance in clinical practice (Hughes et al., 2000; Rounsaville et al., 2003).

As regards psychosocial treatments, they typically target psychological processes common to abusers of many different substances (such as conditioned craving, self-efficacy, problem solving skills). For this reason, the negative aspects of the gap between research and practice have not led to major consequences. As suggested by Rounsaville et al. (2003) and Connors et al. (2013) in psychological treatments it may be useful to distinguish between legal drug users (e. g. nicotine and caffeine) and illegal drug users (single drug users or multiple drug users) such as cocaine, heroin, etc.,

except for alcohol use, as the use of illegal drugs and alcohol may have a different impact on psychological and social function, respect to legal drugs such as nicotine or caffeine.

Psychosocial and pharmacological treatments are the two big categories of the treatments in SUD issues but treatment pathways for substance use disorder are often characterized by the use of different treatments and services, repeated care entries and variable length of stay.

### **Heterogeneous interventions in Substance use disorder issues: the crucial role of Vocational rehabilitation interventions.**

As mentioned before, there are several interventions in substance use disorder issues. After a brief description of various interventions in this area, the focus will be on vocational rehabilitation interventions aimed to increase social and work inclusion and life satisfaction in people with SUD.

Individuals with substance use disorders are heterogeneous with regard to a number of clinically important features and domains of functioning. Consequently, a multimodal approach to treatment is typically required (American Psychiatric Association, 2010). Care of individuals with substance use disorders includes conducting a complete assessment, treating intoxication and withdrawal syndromes when necessary, addressing co-occurring psychiatric and general medical conditions, and developing and implementing an overall treatment plan. The goals of treatment include the achievement of abstinence or reduction in the use and effects of substances, reduction in the frequency and severity of relapse to substance use, and improvement in psychological and social functioning. As a matter of fact, the different treatments for addiction aim for the broad goal of recovery, which is defined as abstinence plus improved life satisfaction (American Psychiatric Association, 2010; Laudet, 2011).

Following the American Psychiatric Association (2010), the goals of treatment and the specific therapies chosen to achieve these goals may vary among patients and even for the same patient at different phases of an illness. Since many substance use disorders are chronic, patients



usually require a long-term treatment, often characterized by many setbacks, voluntary suspension of treatment by the patient (which can last for long periods of time), voluntary re-entering the treatment, and continuous relapses in the use of the substance (Dennis, Scott, Funk, & Foss, 2005). Treatment for substance abuse can be considered as a recursive path (not organized in specific phases) where the intensity and specific components of treatment may vary over time depending on the peculiarities, physical, psychological and social needs of the patient, as well as his/her levels of motivation and compliance at the treatment (American Psychiatric Association, 2010; Dennis et al., 2005). For this reason, it is often difficult to get an exact estimate of the years of actual treatment that patients have had during their drug addiction story. Generally, to have an index of historical duration of the addiction the "years of use" are used as index (Dennis et al., 2005).

Considering the complicity of treatments in SUD issues, following the American Psychiatric Association (2010), the intervention plan includes the following components: 1) psychiatric management; 2) a strategy for achieving abstinence or reducing the effects or use of substances of abuse; 3) efforts to enhance ongoing adherence with the treatment program, prevent relapse, and improve functioning; and 4) additional treatments necessary for patients with a co-occurring mental illness or general medical condition.

Psychiatric management is the foundation of treatment for patients with substance use disorders. Psychiatric management has the following specific objectives: motivating the patient to change, establishing and maintaining a therapeutic alliance with the patient, assessing the patient's safety and clinical status, managing the patient's intoxication and withdrawal states, developing and facilitating the patient's adherence to a treatment plan, preventing the patient's relapse, educating the patient about substance use disorders, and reducing the morbidity and sequelae of substance use disorders. Psychiatric management is generally combined with *specific treatments* carried out in a collaborative manner with professionals of various disciplines at a variety of sites, including

community-based agencies, clinics, hospitals, detoxification programs, and residential treatment facilities (American Psychiatric Association, 2010).

The specific treatments can be divided in two big categories: pharmacological and psychosocial treatments:

a) The categories of pharmacological treatments are: medications to treat intoxication and withdrawal states; medications to decrease the reinforcing effects of abused substances; agonist maintenance therapies; antagonist therapies; abstinence-promoting and relapse prevention therapies, and finally, medications to treat comorbid psychiatric conditions.

b) Psychosocial treatments are essential components of a comprehensive treatment program. The aims of these treatments are prevent relapse, improve psychological and social function to increase social and work inclusion and life satisfaction and quality (American Psychiatric Association, 2010; Laudet, 2011; Nathan & Gorman, 2015).

***Vocational rehabilitation interventions*** are specific psychosocial treatments that aim to improve social and work inclusion and to increase life satisfaction and quality in people in treatment with SUD. In this regard, as affirmed by Curie (2002), people with SUD say they need: a job; a decent place to live and meaningful relationships. The lack of progress in employment for clients may be due to a lack of vocational rehabilitation services for them. As a matter of fact, the reintegration into the work and social sphere has always been considered an important criterion of efficacy of the different rehabilitation and cure programs for substance use, even if, already since the revision made by Plant in 1995, the attention on the world of work shifted from the “result” to the “element” of the rehabilitation programs, having more and more consciousness about the fact that work and the various aspects connected to it are linked to a series of positive results. In this regard, there are many scientific studies that show how people with SUD who manage to obtain a good integration in the social and working spheres are also those who are more willing to continue the therapeutic procedures. These people have more therapeutic success and go through less relapses (Richardson et al., 2012; Shepard,

& Reif, 2004) and therefore experience higher levels of life satisfaction (Foster, Marshall, & Peters, 2000). On the other hand, unfortunately, after the treatment and after the therapeutic community, it is not always easy for people with SUD to find a respectable job, to take important decisions about the future, to imagine and obtain possible and positive future scenarios. As a matter of fact, as underlined by many researches, people with SUD encounter many barriers when planning their future life: barriers at level of client (for example, the lack of work's experiences, unrealistic career goals, low levels of self-esteem, low problem-solving skills, lower levels of social skills, tendency to make maladaptive decisions; difficulty to imagine future goals; (Richardson et al., 2012; Sgaramella, Ferrari, & Ginevra, 2015), to program (for example, rigidity of treatment; Richardson et al., 2012), and on a social level (prejudice against drug users, problems of the labor market, economic crisis; (Earnshaw et al., 2013; European Observatory on Drugs, 2013; Graham, 2006). As a matter of fact, the two negative consequences related to drug use, frequently cited by people with SUD, regard past experiences (such as losing the job, reducing significant social relations) and the fear of future negative experiences (such as not being able to find a job, not being able to re-establish significant social relations, having relapses into substance use) and the principal goal of these people is to be able to live a satisfying future life (e.g. Laudet, Savage, & Mahmood, 2002; Laudet, Morgen, & White, 2006).

Considering all this, intervention programs in support of vocational guidance and career counseling in the field of drug addiction have to meet many problems and challenges, made worse in the latest years by the economic crises that led not only to the reduction of workplaces with a consequent raise of the unemployment rate of Italian and European population (involving in particular the categories that for some reasons result to be more vulnerable) but also to a cut in public funding to social policies (Nota, Soresi, Ferrari, & Ginevra, 2014).

As concerns specifically the Italian situation, there has always been an institutional attention towards the job re-integration for drug and alcohol user (Act 124 of the D.P.R. n. 309/90; Act 5 and 6 of the

law of the 5 of June 1990, n. 135; law 381/91 etc.). Nevertheless, there do not seem to be many studies made to deepen the occupational problems of this specific population. All of this generated a lack of assessment instruments and appropriate interventional programs (Zonta, Zamarchi, De Angelis, 2001). Instead, in the scientific international literature, it is possible to find rehabilitation programs focused on the job re-integration for the people with SUD. Based on Magura revision study (2003) it is possible to detect four different theoretical models that, in the few international researches found in literature, are a reference in respect to professional rehabilitation programs for people with SUD. These models are: 1. Work as Positive Outcome Model (work is a desirable outcome of treatment). 2. Work Infusion Model (work is a therapeutic factor in treatment). 3. Contingent Sanctions Model (work, or suffer the consequences). 4. Work as Reinforcement Model (work is a reward).

The Work as Positive Outcome Model is the conventional way that the treatment system has approached work to clients. The assumption of this model is: if treatment is effective in reducing substance misuse, client employability and employment should increase as a result. Accordingly, it may be asked whether “standard” substance dependency treatment increases the employment of clients. Different studies reported by Magura (2003) showed no changes in full-time employment comparing the five years before treatment with the five years post-discharge for clients in short-term inpatient, outpatient drug free, or long-term residential programs, while clients discharged from methadone maintenance showed a significant decrease in full-time employment; the latter may be due to the exclusion of clients who remain in methadone treatment or the age of the discharged clients—those over age 40 in all modalities are less likely to have work (Schildhaus, Gerstein, Brittingham, Cerbone, & Dugoni, 2000).

The Contingent Sanctions Model and the Work as Reinforcement Model: the assumption of these models is that people with SUD are not intrinsic motivated to work and that their client work behavior can be shaped by manipulating contingencies for rewards and punishments. In these models, the work need not to be inherently satisfying, but it is linked directly to material gain or other rewards.

In the Contingent Sanctions Model, in order to motivate the people with SUD at job, a set of punishments is used (for example the threat of reducing methadone or other drugs). Instead, in the Work as Reinforcement Model, in order to motivate active job search behaviors, a set of reinforcement is used.

These models lead to the question: do clients really want jobs?

In literature, it is possible to find studies that showed how people with SUD are motivated to work. For example, already in 1999, Hser et al. (1999) showed that three quarters of clients entering all treatment modalities need for employment counseling, and about 90% of repeaters in short term inpatient, outpatient drug-free, and residential programs do so. This is confirmed also by a research made by Ginevra, Di Maggio, and Nota (2013) aimed to analyze the concept of work in adults in treatment for SUD. Specifically, the qualitative and quantitative analysis carried out by the authors showed that the vast majority of adults with SUD involved in the study was strongly motivated to work because the work is (as reported by the participants) “independency”, “autonomy”, “satisfaction” and “it makes you a normal person”.

A last way in which work may relate to the treatment process is the Work Infusion Model. This model is more recent than the previous models mentioned before and although not yet widespread in practice, it seems to show more positive results than the previously mentioned models (Magura, 2003; Magura, Staines, Blankertz, & Madison, 2004; Richardson et al, 2012; Shepard & Reif, 2004). The Work Infusion Model conceptualizes work as a therapeutic factor in treatment. The assumptions of this model are that legitimate work:

- occupies and structures time, competing with drug seeking;
- facilitates socialization with nonsubstance users;
- promotes a socially responsible and personally competent self image that is incompatible with the image of a substance user;

- provides psychic, social, and economic rewards that are alternatives to a lifestyle involving substance misuse;
- gives a person “something to lose” should he relapse to drug use;
- enhances self-esteem so that one feels more deserving of help and will accept it.

This model is implicitly founded on the premise that successful treatment alone (i.e., achieving abstinence) does not ensure that clients will spontaneously seek or be able to obtain job training or employment, and thus specific vocational services are required. This contrasts with the idea that addiction is responsible solely for the client’s unemployment, and that, therefore, “successful” treatment also will solve vocational problems with no further assistance.

In this approach, the vocational rehabilitation counseling work profoundly affects people’s relationships to environments, space, time roles, systems, and life contexts. But to be more effective, alternative rewards from work need to be experienced during treatment, not only abstractly anticipated after treatment. As reported by the Magura’s meta-analysis (2003), this model showed many levels of efficacy in terms of employability in respect to the Work as Positive Outcome Model. Despite this, treatment programs based on this model produced no clear and consistent effects on employment of methadone patients (Appel, Smith, Schmeidler, & Randell, 2000; Magura, 2004).

In conclusion, as claimed by Magura (2003) and by Richardson et al. (2012), the present and most used models in the field of vocational rehabilitation for clients with SUD, unfortunately do not appear very efficient, because: a) they do not show clear efficiency indexes on employability and on personal and professional life quality and satisfaction of the people involved; b) they do not consider, as on the other hand other recent and accredited models in the field of vocational and career designing the complexity of professional planning processes (e.g. Savickas et al., 2009; Nota & Rossier, 2015). More specifically, these models not taking into consideration for example both the different fields and roles of people and the importance to study and implement, inside the vocational rehabilitation programs, skills and attitudes useful to help the individual to experiment decent and satisfying job

and social inclusion opportunities in the current competitive world of work., that is becoming, due to the latest socio-economic and political changes, particularly complex especially for people who, for different reasons, result to be more vulnerable (Nota et al., 2014).

Keeping this in mind, the attention has been directed towards one of the most recent and accredited models of vocational and career counseling: the Life Design Approach. This approach was born in 2009 as an answer to the difficulties related to professional planning. On the contrary to what happened in the past, professional planning, in the latest years, has started to be characterized as full of obstacles and accidents, setbacks and transitions (Savickas et al., 2009). The Life Design Approach, as mentioned in the introductory pages, unlike what happened in the past has dedicated a particular attention to those minorities that for different reasons resulted to be more at risk of exclusion from the world of work and/or more subject to underpaid and hardly decent jobs (Nota & Soresi, 2017; Savickas et al., 2009). In this regard, the scholars who founded the Life Design Approach have underlined many times how the theoretical model of analysis could be unique for different categories and groups and that the features and distinctive traits that characterize people's life stories should be faced and highlighted in the interventions, predicting high levels of personalization and the continued use of narration (Ferrari, Sgaramella, & Soresi, 2015; Nota & Rossier, 2015; Savickas et al., 2009; Wehmeyer et al., in press). However, unfortunately, the theoretical-practical requirements of this approach have never been studied in people with SUD in vocational rehabilitation contexts.

**The Life Design Paradigm: a new proposal for vocational rehabilitation in the addiction field.**

Considering the characteristics of the society of the 21st century, the Life Design approach, that is based on the epistemology of social constructionism and implements the theories of self-constructing and career construction (Nota & Rossier, 2015; Savickas, 2011; Savickas et al., 2009),

was developed considering five presuppositions about people and their work lives: contextual possibilities, dynamic processes, non-linear progression, multiple perspectives and personal patterns (Nota & Rossier, 2015; Savickas et al., 2009). Specifically, as already reported in the introductory pages, different models in vocational issues are focused on stable personality traits using person and occupation profiles to diagnose the best ‘person–environment-fit’ (e.g. Holland, 1997). The fundamental paradox shared by all these approaches is that counselors aim to find the best fit between a client’s life projects and environmental conditions by using tools and methods that eliminate precisely such contextual information. The Life Design approach considers these methods insufficient to describe clients as living entities who interact with and adapt to their manifold contexts. Professional identities should be seen as changing patterns derived from client stories rather than as static, abstract, and oversimplified profiles of client test scores. The individual client and his or her ecosystem form a complex dynamical entity, resulting from mutually adaptive self-organization over time. Another paradox of these models is that counselors continue to prescribe careers whereas clients keep changing jobs. Another presupposition of the Life Design approach is therefore to focus upon strategies for survival and the dynamics of coping, rather than adding information or content. Counselors must discuss with clients about “how to do” not “what to do.” In others words, today, clients seek help to enhance their social competencies, facing psychological traps such as their ‘bounded rationality’ in their decision making, and managing complex constraints within their personal, professional, social, and family eco-systems. Therefore, counselors should help clients to develop efficient strategies to plan their future and to design their overall life in order to help them to experience current and future life satisfaction. With these aims, counseling methods based on the Life design approach, focus on client’s ongoing construction and re-construction of subjective and multiple realities. Rather than relying on group norms and abstract terms, clients are motivated to engage in activities and meaning-making that enable them to build some new view of themselves. The advantage is evident; if there exist multiple ways to interpret one’s own different life experiences,



then different life perspectives and designs become possible. Counselors facilitate, in this way, empowerment and flexible adaptation or re-construction of one's own eco-system and thereby the opening of new perspectives of co-evolution. In others words, career counselors should stimulate their clients to start this journey and they should also examine and stimulate activities in life domains other than that of work, because engaging in activities requiring the activation of many different roles can help people develop new identities (Savickas, 2012, p. 17). According to the Life Design paradigm, individuals need to develop their own resources in designing their personal lives and to focus on their subjective and multiple construction and reconstruction processes. The "life-design support systems" should not only help people to develop the skills they need to cope with career search scenarios, but should also encourage clients to imagine themselves in many different life-roles and to consider identity as a changing pattern. The Life Design paradigm claims that vocational assessment, career education, and career counseling efficacy should be measured in terms of its ability to "change the endings" of many people's life stories and to promote their life satisfaction (Nota, Ginevra, Santilli, 2015; Savickas et al., 2009; Soresi, Nota, Ferrari, & Solberg, 2008)

In order to promote all this, career counseling based on a life-designing approach should focus on promoting the necessary resources, abilities, and readiness that allow clients to actively take charge of their lives. In this regard, the career adaptability, hope and courage resources play a crucial role on different personal and professional outcomes.

### **Career adaptability: a crucial dimension in The Life Design approach**

In 1981, more than 30 years ago, Super and Knasel (1981) considered career adaptability as an alternative to vocational maturity, especially for adults. In their opinion, a purely developmental perspective focused on maturation is less adequate compared with a perspective that defines the person as being able to anticipate, plan, and behave proactively. In line with a functional psychology perspective, for Super and Knasel (1981), adapting to the environment has practical value and

promotes growth or functional enlargement and improvement. In other words, career adaptability not only implies being able to adapt to a variety of circumstances but also to have an impact on the environment and to modify it to one's own needs and constraints. This is similar to Piaget's conception of adaptation by accommodation or assimilation that underlies sensorimotor and practical intelligence development (Piaget & Inhelder, 1969). As a matter of fact, Super and Knasel (1981) consider adaptability as "the individual ... [being] a responsible agent acting within a dynamic environmental setting" (p. 199) and characterize it as including resilience, positivity, and flexibility.

In line with Super and Knasel's conceptualizations, in 1981, Savickas proposed that career adaptability might allow the integration of the four different perspectives of the life-span, life-space approach – namely, the individual, the developmental, the identity, and the contextual perspective. For Savickas, career "adaptability, whether in adolescents or in adults, involves planful attitudes, self and environmental exploration, and informed decision making" (Savickas, 1997, p. 254), arriving at defining in his later study (Savickas, 2005; Savickas & Porfeli, 2012) career adaptability sub-dimensions: concern, control, confidence and curiosity. Concern is the ability to project themselves into the future taking into account both what one is and what he or she would like to become. Control is the tendency to consider the future at least partially controllable. Curiosity is the level of propensity to explore the Self, including skills, abilities, knowledge and values, and also the environment. Confidence is the belief in one's own ability to face challenges, overcome obstacles and barriers that can be experienced in pursuing personal goals (Savickas, 2005; Savickas & Porfeli, 2012).

Moreover, Savickas & Porfeli (2012) assume that the four resources of career adaptability, predicted by dispositions (adaptivity), are positively related to adapting responses such as adaptive behaviors and beliefs that people use to deal with career development tasks and changing work and career conditions (e.g. resilience, decision making, hope). This behaviors and beliefs mediate the association between career adaptability and adaptation results (such as life satisfaction, commitment, and work success).

The relevance of career adaptability in career and life design of people, stimulated the birth of the international research group named *Career Adaptability Research Team*, coordinated by Mark Savickas. This international team of vocational psychologists, from 13 countries of different continents met for the first time in Berlin in 2008 and worked together to construct a shared self-report, the CAAS (Savickas & Porfeli, 2012). As reported by these authors, this 24-items scale has appropriate measurement equivalence across countries, with six items for each subtest (concern, control, curiosity, and confidence), which in turn combine to become a global indicator of adaptability. This scale, that is available in more than 10 different languages, has been producing a growing number of studies that show the impact of career adaptability on (a) career related outcomes, such as employability, work stress, or work engagement, (b) on other vocational psychological constructs, such as vocational indecision or vocational maturity, and (c) on cognitive abilities or personality (Rossier, 2015). As regards the CAAS-Italy (Soresi, Nota, & Ferrari, 2012), the instrument showed good-to-excellent internal consistency estimates and a coherent multidimensional and hierarchical structure. As regards concurrent validity, career adaptability associated negatively with perceived internal and external barriers, and positively with breadth of interests and quality of life.

The development of the instrument has been followed by numerous research projects that have shown, as hypothesized, the crucial role in life span played by career adaptability resources in the life designing. More specifically, as regards the studies that involved adults, different researches confirmed that career adaptability predict different positive outcomes (e.g. self-esteem, employability, life satisfaction, turnover, work satisfaction) (Rossier, 2015; Rudolph, Lavigne, & Zacher, 2017; Koen, Klehe, Van Vianen, Zikic, e Nauta, 2010; Spurk, Kauffeld, Meinecke, & Ebner, 2016). These results were confirmed also in different groups of adults with vulnerabilities, such as the unemployed (Konstam, Celen-Demirtas, Tomek, & Sweeney, 2015), parents of children with disabilities (Ginevra et al., 2017) and adults with disability (Santilli, Nota, Ginevra, & Soresi, 2014).

Moreover, recently, Rudolph et al. (2017) with their meta-analysis, have provided a set of empirical evidence to support on Savickas and Porfeli's (2012) theorizations. The authors, based on a total of 90 studies, showed that career adaptability is significantly associated with measures of adaptivity (i.e., cognitive ability, big five traits, self-esteem, core self-evaluations, proactive personality, future orientation, hope, and optimism), adapting responses (i.e., career planning, career exploration, occupational self-efficacy, and career decision-making self-efficacy), adaptation results (i.e., career identity, calling, career/job/school satisfaction, affective organizational commitment, job stress, employability, promotability, turnover intentions, income, engagement, self-reported work performance, entrepreneurial outcomes, life satisfaction, and positive and negative effects). Moreover, multiple regression analyses based on meta-analytic correlations carried out by authors showed incremental predictive validity of career adaptability, above and beyond other individual different characteristics, for a variety of career, work, and subjective well-being outcomes. The overall results obtained by the authors support the career construction model of adaptation.

These relationships were tested also in adults with vulnerability. Specifically, Ginevra et al. (2017), involving parents of children with disabilities, showed that career adaptability is, indirectly, related through resilience (conceptualized as an adapting response) with life satisfaction (conceptualized as an adapting result). Moreover, Santilli et al. (2014), involving 120 adult with mild intellectual disability, hypothesized that hope (conceptualized as an adapting response), partially mediated the relationship between career adaptability and life satisfaction (conceptualized as an adapting result).

Despite the relevance of career adaptability in future life designing this dimension, their relationship with positive dimensions and their effects on positive outcomes seem to have never been analyzed before in adults with SUD in vocational rehabilitation programs<sup>1</sup>.

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<sup>1</sup>Using as key words the name of the investigated construct and “addiction” / “substance user disorder” / “drug users” in different databases such as PsycINFO, Psychoanalytic Electronic Publishing, Education Source, Psychology and Behavioral Science, PubMed, SCOPUS, Web of Science, no research investigating the variables or relations taken into consideration was found.

## **The rule of positive dimension in vocational issues**

Thanks to the Life Design, several positive psychology dimensions, emphasized by a positive psychological approach that focuses its attention on strengths in respect to deficit and maladaptive functioning, have been investigated in vocational and career counseling issues as protective factors of positive outcomes in personal and professional life. Specifically, the Life Design states that the greater the integration between the individual's strengths and the resources of the context, the greater the positive development observed, the setting of goals, the optimal use of resources and strategies to achieve them, and the changes made to actions already started to pursue them if barriers are encountered or if strategies turn out to be inefficacious (Nota & Rossier, 2015; Savickas et al., 2009; Vondracek, Ferreira, & Dos Santos, 2010). In line with that, over the last few years, the attention was focused on some aspects that can be advantageous for the construction of positive professional and personal pathways, such as hope and courage.

*Hope.* Hope has been conceptualized in a variety of ways within the counseling literature. Averill, Catlin, and Chon (1990) conceptualized hope as primarily an emotion rather than a cognitive construct. Similarly, Scioli et al. (1997) considered it as an affective variable that sustains action and affects thoughts and behaviors. Hayes, Beevers, Feldman, Laurenceau, and Perlman (2005), defined hope as “the extent to which the person describes an expectation that the future will be better and progress can be made on problems area, as well as commitment to change” (p. 413). It is an emotion rooted from biological, psychological and social resources, that occurs when an individual is focused on an important positive future outcome (Scioli, Ricci, Nyugen, & Scioli, 2011). Hope, therefore, is a positive motivational state, in which people have a sense of agency (willpower) and pathways (waypower) for goals (Snyder, 1994, 2000). Agency or willpower regards the determination to start and sustain the effort needed to achieve goals. Pathway or waypower reflects the plans for goal achievement. These agency and pathway components of hope are strongly related and operate in a

combined process to provide hope (Luthans & Jensen, 2002; Pattengale, 2009). Niles, Amundson, and Neault (2011) have considered hope as a crucial variable for career development, for example because it allows to envisage possibilities in any situation and encourages the individual to undertake actions.

This dimension was generally assessed with the Adult Hope Scale development by Snyder et al. (1991). This scale is constituted by 12 items, four of which are filler items. It is composed by two subscales that comprise Snyder's cognitive model of hope: (1) Agency (4 items; e.g. "I energetically pursue my goals") and (2) Pathways (4 items; e.g. "I can think of many ways to get the things in life that are important to me"). This instrument has been used in several national studies confirming the good psychometric properties of the instrument in its Italian adaptation (Soresi, 2013).

Different researches showed that hope is in relation to a wide range of indicators of psychosocial well-being and career outcomes. Specifically, it is associated with higher levels of life satisfaction, personal adaptation, adaptive achievement, and fewer behavioral problems and depressive symptoms (Gilman, Dooley, & Florell, 2006; Hagen, Myers, & Mackintosh, 2005; Kenny, Walsh-Blair, Blustein, Bempechat, & Seltzer, 2010). Schaefer and Lazarus (1981) suggested that hope influences the perception of major life events concluding that hopeful people are able to cope with more difficult life events, and are thus less vulnerable to situations of trouble. Carr (2004) states that hope is an important emotion for subjective well-being. In line with this, Sheldon and Hoon (2013) underlined the role of the future anticipation in quality of life theories. They found out that hope was related to the quality of life in individuals with depression.

Regarding work outcomes, Hong and Choi (2013) stated that employment hope, as a positive psychological stimulus, is an important condition for reaching economic success for low SES job seekers, and it sustains the job search process and maintenance of own work. In other words, it is an essential resource that enables people to keep having confidence in the 'possible-self' against barriers and to keep being involved in their work paths (Oyserman, Bybee, Terry, & Hart-Johnson, 2004).

As regards the relationship between career adaptability, hope and life satisfaction, as mentioned above, Santilli et al. (2014), involving adults with disability, showed that career adaptability is directly and indirectly related to life satisfaction through hope. All of this means that career adaptability influences the determination to start and sustain behaviors aimed at achieving goals (agency) and the plans for goal achievement (pathway) that lead to a higher life satisfaction. In other words, the career adaptability resources predict the tendency to set goals for the future and to identify strategies for their pursuit and all this increases feelings of well-being.

The research on hope in substance abuse recovery supports the idea that hope is an important characteristic that can help individuals overcome recovery-related challenges. The objective of remaining abstinent for a long period of time requires the perception of being able to do so and the understanding of the means by which it is possible to achieve this objective. It has been shown that people with high levels of hope are more able to deal with situations that may compromise the objective of the recovery from substance abuse and to develop strategies to overcome the factors that lead to a relapse or, in the case that this has occurred, strategies to resume the commitment to abstinence. In respect of this, Mathis, Ferrari, Groh, and Jason (2009) found out that hope agency and hope pathways scores predicted drug abstinence at an 8 months follow-up. Bradshaw, Shumway, Wang, & Harris (2014), involving 285 participants with drug and alcohol addiction, showed a partially mediating effect of hope on the relationship between craving and contemplation to change addiction behavior. Moreover, May, Hunter, Ferrari, Noel, and Jason (2015) found out that hope predicted in negative ways depressive and anxiety symptoms in individuals in recovery for SUD. Irving, Seidner, Burling, Pagliarini, and Robbins-Sisco (1998) showed that a higher level of hope was related to a greater time abstinent and better quality of life. If high levels of hope play a significant role in the process of recovery from substance abuse then hope should be promoted in all areas, including work. In this regard, Barbieri, Dal Corso, Di Sipio, De Carlo and Benevene (2016), involving 98 workers with SUD, showed that work engagement is a positive predictor of hope.

Additionally, in the same study the authors showed that hope is positively correlated with other positive and crucial variables in the field of professional design such as future time perspective and resilience. Moreover, qualitative studies, that have analyzed hope in terms of future goals and strategies for pursuing their goals, showed that the typical narratives of future by adults with SUD were specific to the minimal opportunity structures available to them – a prioritising of paid employment with little concern about the type of work done, a home that was secure but not owned and, often, a wish to regain custody of children. Significantly, many participants could not articulate a future beyond their present circumstances. The uncertainties of their lives shaped their future thinking, through their lack of capital but also through deficit views of themselves as possessing few choices and few strategy to pursuing their goals. But, while there was no ‘choice-making’, there was agency: they hoped for something better such as to live securely and to be happier (Bryant & Ellard, 2015; Thomas, & Rickwood; 2016).

Despite hope has been most studied in SUD issues in respect to other crucial variables in vocational field (such as: career adaptability), the relationship between hope and career adaptability seems to have never been analyzed before in adults with SUD<sup>2</sup>.

***Courage:*** The Life Design approach also underlines the importance to consider positive resources, such as courage, in programs and counseling concerning vocational guidance and professional planning, especially when people are unemployed or are experiencing uncertainty in their career (Rossier, 2015; Savickas et al., 2010).

According to Aristotle, courage is the first human virtue because it makes all of the other virtues possible. Courageous actions are considered by Peterson and Seligman (2004) a combination of personality strengths that include bravery, persistence, integrity, and vitality that promotes “the exercise of will to accomplish goals in the face of opposition, either external or internal” (p. 199).

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<sup>2</sup>Using as key words the name of the investigated construct and “addiction” / “substance user disorder” / “drug users” in different databases such as PsycINFO, Psychoanalytic Electronic Publishing, Education Source, Psychology and Behavioral Science, PubMed, SCOPUS, Web of Science, no research investigating the variables or relations taken into consideration was found.



Courage represents “the ability to act for a meaningful (noble, good, or practical) cause, despite experiencing the fear associated with perceived threat exceeding the available resources” (Woodard, 2004). It denotes the voluntary willingness to act, with or without varying levels of fear, in response to a threat to achieve an important outcome or goal (Woodard & Pury, 2007). The multiple components identified in the definition of courage, include also the presence of a threat, and an important or worthy end or outcome. Moreover, Rate, Clarke, Lindsay, and Sternberg (2007) provide a framework for understanding different types of courage in terms of risk – goal pairs. In this approach, courageous acts that involve a particular type of goal may be more likely to involve one type of risk than another. The authors, based on this theoretical framework, identified three different types of courage: physical courage, moral courage and psychological courage. The prototypical physical courage situation involves saving someone else from a clear and present physical danger by voluntarily entering that physically dangerous situation, pairing rescue from physical danger with facing that same physical danger. Prototypical moral courage involves standing up to powerful others for what you believe in, with the risk that the others will treat you poorly. Prototypical psychological courage involves facing unpleasant truths or unpleasant treatment experiences in order to attain wellness. Differences in risks and benefits based on the type of courage have been supported in literature. More specifically, Pury and colleagues (Pury, Kowalski, & Spearman, 2007; Pury, Britt, Zinzow and Raymond; 2014) found different factors of risks and different benefits according to the type of courageous action. For the authors, physical courage actions are characterized by high physical risks/difficulties (internal risks), moral courage actions are characterized by high risks in social context (external risks) but with high internal benefits, and finally psychological courage actions are characterized by high emotional and psychological risks (internal risks) and high internal benefits.

As regards the instrument to assess courage, it is possible to identify different quantitative and qualitative instruments. In this regard, in recent times many researchers of the University of Padua

have founded (2014) the Courage Research Group aimed to develop and adapt qualitative and quantitative assessment instruments for the Italian context. Thanks to the work of this group it is possible to use for the Italian context the Courage Measures in its integrated (Norton & Weiss, 2009) and reduced (Howard & Alipour, 2014) version. Additionally, thanks to the work of this group, it is also possible to use qualitative interviews to explore the definition and the history of courage of clients in counseling sessions.

As demonstrated from different studies, courage is the relationship between well-being, life satisfaction and quality of life in people with and without vulnerability (Gilman & Huebner, 2003; Pavot & Diener, 1993; Peterson, Ruch, Beermann, Park, & Seligman, 2007; Proyer, Ruch & Buschor, 2013; Santilli, Ferrari, & Nota, in press).

As regarding the role of courage in the work context, recent studies have begun to empirically study courage's influence on work outcomes (Howard, Farr, Grandey, & Gutworth, 2016; Koerner, 2014; Schilpzand, Hekman, & Mitchell, 2014). Koerner (2014) provided a theoretical model suggesting that courageous behaviors influence employees' personal identities, which subsequently influence the behaviors that they choose to perform. Qualitative evidence supported this proposal, showing that courage indeed influences behavioral outcomes (Koerner, 2014). Howard et al. (2016) quantitatively showed that social courage, one of the many possible dimensions of courage, significantly relates to organizational citizenship behaviors and prosocial rule breaking even when controlling for conscientiousness. From these findings and others (Baumert, Halmburger, & Schmitt, 2013; Hannah, Avolio, & Walumbwa, 2011), many authors have suggested and empirically supported that courage relates to many important work outcomes. Moreover, Waltson (2003) identifies a list of courageous behaviors at work that include (a) revealing vulnerability, such as when we have to learn a new task and this may generate feelings of anxiety; (b) voicing an unpopular opinion, that is to not give up easily on opinions and judgments; (c) making sacrifices for long terms goals, as to attend evening classes, to sacrifice the present to focus on a future goal. Courageous people state their goals

and then work to look for the way to achieve them. They develop new strategies when the old ones do not work anymore, taking the risk of this and reviewing their goals, asking themselves if they really want to achieve that goal, hurdling obstacles and developing a crystal clear vision of the goal.

Courage was also studied in substance use disorder issues. Specifically, Putman, (2004; 2010) declared that courage, in particular psychological courage, can be conceptualized as something that could motivate addicted people to enter into treatment and face all the challenges related to treatment and care for addiction. According to Putman (2004, 2010), addiction rehabilitation requires psychological courage for three different reasons: 1. Tackling an unpredictable, uncertain and paradoxically negative future. In this case, psychological courage is very close to moral courage "do the right thing despite the consequences"; 2. Tackling the anxiety and anticipatory fear of physical pain associated with abstinence. In this case, psychological courage is very close to physical courage "to decide to face a physical pain"; 3. Decide to put your psychological stability at risk. Go beyond self-justification and self-deception. These courageous actions are linked to psychological courage. Individuals with addiction told themselves and others a series of "lies" that have for many years "constituted" their attitudes and guided their behavior. To admit having an addiction and facing a therapeutic path means to restructure one's own attitudes, accept negative past choices and confront one another with a more negative image of oneself and a difficult past. Empirical evidence to support Putman's theorizations can be found in literature (2004; 2010). For example, Ehrmin (2001) with his ethnographic study, interviewing several African-American women resident in a community for substance abuse, showed that, in line with Putman's report (2004, 2010), key concepts that were identified in the interviews referred to the courage to face physical pain and the courage to forgive oneself for past mistakes by centralizing what one has been. Pury et al. (2014), involving 32 soldiers in active service in the American army who decided to use psychological services during their career, showed that psychological and moral courage were indispensable elements for their entry into treatment.

Nevertheless, Putman's theorizing about the role of courage in substance abuse, this dimension and its role in the process of nursing and rehabilitation as well as its influence on quality of life seems to have never been verified before in people with SUD<sup>3</sup>.

### **Life satisfaction: an outcome emphasized by the Life Design Approach**

Unlike different models in vocational issues that focus the attention on best 'person–environment-fit', the Life Design approach considers the quality of life and in particular life satisfaction an important outcome in the vocational process.

According to Schalock and colleagues, when referring to the quality of life concept, "quality" refers to human values, such as happiness and health, while "life" refers to important aspects of human existence, e.g. health, family and work (Brown, Schalock, & Brown, 2009; Schalock et al., 2002). More recently, Wehmeyer (2013) described quality of life as a multidimensional construct, including the same factors and relationships between them, and involving both subjective and objective components, that refer to the possibility of satisfying people needs and increasing the opportunity of pursuing improvements in major life activity settings. Additionally, according to Brown, Hatton, and Emerson (2013) quality of life is a social construct based on several indices referring to different, both subjective and objective domains, such as physical and material well-being, emotional wellbeing, social belonging and community living.

Life Satisfaction is considered as a subjective component of the quality of life (Schalock & Felce, 2004). It is described as the cognitive component of subjective well-being, as the conscious cognitive judgment of one's life referred to by individuals to describe the quality of their own life according to a series of personal set of criteria (Pavot & Diener, 1993). Although it does not provide a representation of the multidimensional nature of the concept, life satisfaction is a common measure

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<sup>3</sup>Using as key words the name of the investigated construct and "addiction" / "substance user disorder" / "drug users" in different databases such as PsycINFO, Psychoanalytic Electronic Publishing, Education Source, Psychology and Behavioral Science, PubMed, SCOPUS, Web of Science, no research investigating the variables or relations taken into consideration was found.

of quality of life and a means to assess the relative importance of individual quality of life domains (Schalock & Felce, 2004).

Usually to assess these dimensions, the Satisfaction with Life Scale development by Diener, Emmons, Larsen, and Griffin (1985) is used. It consists in a five-item scale used to assess global life satisfaction. An example of item is “I am satisfied with my life”. Participants are asked to rate how much each statement describes them on a 7-point scale. Higher scores denote higher levels of life satisfaction. In a study carried out to adapt and validate the Italian version of the scale, Nota, Ferrari, et al. (2015) showed good psychometric proprieties for the Italian version of the scale.

In Substance Use Disorder issues, life satisfaction is considerate an important diagnostic and outcome criterion (Assari & Jafari, 2010; Laudet et al., 2006; Rudolf & Watts, 2002; Smith & Larson, 2003). As a matter of fact, the treatment for addiction aims to the broad goal of recovery, which is defined as abstinence plus improved life satisfaction (Laudet, 2010). Different studies showed that drug use is associated with low levels of life satisfaction and quality of life and that people with SUD generally experience low levels of life satisfaction and quality of life. Specifically, Ventegodt and Merrick (2003) involving 1,501 persons between the ages of 18 and 88 and 4,626 persons between the ages of 31 and 33 showed that the use of substances is associated with less quality of life and life satisfaction. Smith and Larson (2003), involving 570 randomly selected substance abuse clients showed that clients reported significantly lower quality of life scores than general population but also in respect to patients with a chronic illness. As regards the difference between the subjective and objective components of quality of life, Brogly, Mercier, Bruneau, Palepu, & Franco (2003) showed that the subjective component of quality of life is more prone to variations due to care interventions than the more objective life dimensions (such as housing, work, money, hospital admissions) in substance abuse clients. Finally, different studies showed that to have a satisfying future life is also the principal future goal of people with SUD (e.g., Bryant & Ellard, 2015; Laudet et al., 2002; Laudet et al., 2006; Thomas & Rickwood; 2016).

Considering the importance to develop life satisfaction in people with SUD and considering the crucial role of vocational rehabilitation intervention to help people with SUD to design a new and satisfying life, based on the Life Design paradigm, that can be considered a career and vocational paradigm for all people with and without specifically vulnerability or disorder, the role of career adaptability, hope, courage on life satisfaction was investigated in adults with and without SUD.

# Research Project

## Introduction

The aim of this research project is to provide a better understanding of the relationship between career adaptability, hope, courage and life satisfaction in adults with SUD. Theories and models presented in the previous chapters showed as life satisfaction can be considered an important diagnostic and outcome criterion in SUD issues but also in vocational rehabilitation issues (Assari, & Jafari, 2010; Laudet et al., 2006; Rudolf & Watts, 2002; Savickas et al., 2009; Smith & Larson, 2003). As a matter of fact, the treatment aims to reach patients' recovery, which is defined as abstinence plus improved life satisfaction (Laudet, 2010). Moreover, to have a satisfying future life is also the principal future goal of people with SUD (e.g., Laudet et al., 2006). However, re-designing, and getting positive future scenarios after treatment, is not always easy for people with SUD because of the many barriers that they can encounter, such as barriers at level of client (for example, the lack of work's experiences, unrealistic career goals, low levels of self-esteem, low problem-solving skills) of program (for example, rigidity of treatment) and of social context (prejudice against drug users, problems of the labor market, economic crisis) (Earnshaw et al., 2013; European Observatory on Drugs, 2013; Graham, 2006; Richardson et al., 2012; Sgaramella et al., 2015).

Taking this into consideration, as argued in the previous chapters, vocational rehabilitation interventions have a crucial role to help people with SUD to design a satisfying life. For this reason and based on the Life Design paradigm, that can be considered a career and vocational paradigm for all people with and without a specific vulnerability or disorder, the role of career adaptability, hope, courage dealing with the topic of life satisfaction was investigated in adults with and without SUD.

More specifically, based on Life Design, which emphasizes the role of career adaptability, hope, courage and career narratives to deal with the current world of work, this project is aimed at (1) examining relationship between career adaptability, hope and life satisfaction in adults with SUD

compared to adults without SUD. More specifically, it was tested the mediating role of hope in the relationship between career adaptability and life satisfaction in a group of individuals with SUD, and simultaneously it was verified the invariance of this model across individuals with and without SUD. In this regard, it was hypothesized that hope partially mediated the relationship between career adaptability and life satisfaction and that the conceptual model analyzed would be comparable across adults with and without SUD; (2) examining the effect of courage on life satisfaction in adults with SUD compared with a sample of adults without SUD. In this regard, it was expected that, beyond addiction, courage positively predicted individual's life satisfaction; (3) examining stories of courage of adults with SUD in order to identify the themes, meanings, and types of courage performed. Specifically, it was expected that individuals with SUD described more frequently courageous behaviors in overcoming psychological risks than physical and moral risks, especially when these stories were referred to the addiction rather than to other life situations.

The research project was structured in two studies: in the first study the theoretical model of the relationship between career adaptability, hope, and life satisfaction was tested (first goal), and in the second study the relationship between courage and life satisfaction (second goal) and stories of courage (third goal) were tested and examined.



## **Study 1. Career adaptability, hope, and life satisfaction: A mediational analysis in a sample of individuals with and without substance use disorder.**

The aim of this first study was to test the relationship between career adaptability, hope and life satisfaction in adults with SUD compared to adults without SUD. At this regards, the meta-analysis by Rudolph et al. (2017) and Savickas & Porfeli (2012) showed that career adaptability is directly and indirectly related, through adapting responses (e.g. resilience, decision making, hope) to adaptation results (i.e. life satisfaction, work satisfaction, employability). Additionally, Santilli et al. (2014), involving 120 adults with mild intellectual disability, showed that hope, partially mediated the relationship between career adaptability and life satisfaction.

Based on these findings, it was hypothesized that hope partially mediated the relationship between career adaptability and life satisfaction. Moreover, it was hypothesized that this conceptual model would be comparable across adults with and without SUD.

### **Participants**

The sample included 370 adults with (185) and without (185) SUD balanced for gender (147 men and 38 women by group). More specifically, the participants were 38.84 years old ( $SD = 10.94$ ); the adults with SUD were 39.70 years old ( $SD = 10.18$ ) and adults without SUD were 37.99 years old ( $SD = 11.62$ ). Participants with SUD had on average 10.04 years of education ( $DS = 2.88$ ) and adults without SUD had 12.33 ( $DS = 3.21$ ) years of education. As regards the adults with SUD, at moment of investigation they were all in treatment for SUD. Specifically, the participants reported to have a problem in substance use on average by 12.80 years ( $DS = 9.85$ ). Primary substance of use was multi-drug/or combined drug and alcohol among 61.1% (113 participants) and only alcohol among 38.9% (72 participants). No significant differences were recorded between individuals with and without SUD about age [ $t(368) = 1.5$ ;  $p = .133$ ]. However, the participants with SUD reported lower levels of education than individuals without SUD [ $t(368) = 7.22$ ;  $p < .001$ ].

## Measures

**Career Adapt-Abilities Scale-Italian Form** (CAAS-Italy; Soresi et al., 2012). It consists of 24 items to assess four subscales: concern (e.g., “Realizing that today’s choices shape my future”; Alpha = .80), control (e.g. “Counting on myself”; Alpha = .74), curiosity (e.g., “Investigating options before making a choice”; Alpha = .77) and confidence (e.g. “Working up to my ability”; Alpha = .85). All 24 items allow to evaluate the career adaptability total score (Alpha = .91) as the Career Adapt-Abilities Scale-International Form 2.0 (Savickas & Porfeli, 2012). The total score for the CAAS International has a reported reliability of .92, which is higher than for the subscale scores of concern ( $\alpha = .83$ ), control ( $\alpha = .74$ ), curiosity ( $\alpha = .79$ ) and confidence ( $\alpha = .85$ ) (Savickas & Porfeli, 2012). Participants are asked to rate how much each statement describes their ability on a 5-point scale. Higher scores denoting higher levels of career adaptability. In a study carried out to adapt and validate the Italian version of the scale for adults Nota, Ferrari, et al. (2015) using confirmatory factor analysis (CFA) showed good internal consistency estimates (range .80 to .86) and acceptable fit indices for the original structural factor in Italian adults [ $\chi^2$  (248,  $n = 1445$ ) = 2335.84;  $p < .001$ ; CFI = .96; NNFI = .95; RMSEA = .08 (CI90 = .07–.08)].

**The Adult Hope Scale** (AHS - Snyder et al., 1991). The Adult Hope Scale was used to assess hope. It comprises 12 items, of which four-filler items. It is composed by two subscales that comprise Snyder’s cognitive model of hope: (1) Agency (4 items; e.g. “I energetically pursue my goals”; Alpha = .71) and (2) Pathways (4 items; e.g. “I can think of many ways to get the things in life that are important to me”; Alpha = .63). Participants are asked to rate how much each statement describes them on a 4-point scale. Higher scores denoting higher levels of hope. In a study carried out to adapt and validate the Italian version of the scale for adults Soresi (2013), using confirmatory factor analysis (CFA) showed good internal consistency estimates (Agency: Alpha = .75; Pathways: Alpha = .63) and acceptable fit indices for the original structural factor in Italian adults [ $\chi^2$  (19,  $n = 611$ ) = 81.902;  $p < .001$ ; CFI = .97; NNFI = .95; RMSEA = .07 (CI90 = .06–.09)].

**The Satisfaction with Life Scale** (SLS; Diener et al., 1985). It consists of five items used to assess global life satisfaction. An example of items is “I am satisfied with my life”. Participants are asked to rate how much each statement describes them on a 7-point scale. Higher scores denoting higher levels of life satisfaction. The authors showed good internal consistency estimates (Alpha = .87). In a study carried out to adapt and validate the Italian version of the scale, Nota, Ferrari, et al.’s (2015) observed a mono-factorial structure, accounting for 55.73% of the total variance and a Cronbach’s alpha of .80.

## **Procedure**

Individuals with SUD were identified by contacting rehabilitation centers for a project aimed to stimulate individuals with SUD to reflect on their future plans. Once selected, participants were contacted by a career counselor, who explained that the project aim was to foster reflection on future plans, and informed them that collected information would be protected by professional confidentiality, following ethical procedures ruled out by the Italian Ethical Principles of Psychologists and Italian Society for Vocational Guidance (SIO).

Adults without SUD were involved in career guidance and vocational guidance activities organized by the La.R.I.O.S. laboratory (Laboratory for Research and Intervention in Vocational Designing and Career Counseling at the University of Padova). The same ethical procedures of adults with SUD were following also for adults without SUD.

The assessment phase for the two groups lasted approximately 40 minutes and at the end of career vocational guidance activities all participants received a personalized report of their individual results.

## Data analysis

**Preliminary analyses about the psychometric properties of the instruments.** Although the instruments (CAAS, AHS and SLS) have been already adapted to the Italian context, they have not been used with adults with SUD; therefore, preliminarily the psychometric proprieties of these instruments in the sample of adults with SUD were tested. With this aim, Confirmatory Factor Analysis (CFA) was used. The CFA is a statistical technique used to test the hypothesis relationship exists between observed variables and their underlying latent constructs. Specifically, CFA relies on several statistical tests to determine the model adequacy to data fitting. Chi-square test that is the most commonly used goodness-of-index (Quintana & Maxwell, 1999); Comparative Fit Index (CFI) used to compare the hypothesized model over the null model to check if there was any improvement. CFI varies from 0 to 1; a CFI value around to 1 indicates a very good fit and values around .90 indicates acceptable fit; Root-mean-square error of approximation (RMSEA) was used to analyzed the fit of the model as it is less affected by small sample size than is  $\chi^2$ . RMSEA values less than .05 represent a good fit index and RMSEA greater than .08 represent unacceptable fit index; Standardized root-mean-square residual (SRMR) was used to test the overall difference between the observed and predicted correlations. SRMR less than .10 are generally considered acceptable (Hu & Bentler, 1999). If model fitting is acceptable, the parameter estimates are examined. The ratio of each parameter estimate to its standard error is distributed as a z statistic and is significant at the 0.05 level if its value exceeds 1.96 and at the 0.01 level it its value exceeds 2.56 (Hoyle & Panter 1995). Unstandardized parameter estimates retain scaling information of variables and can only be interpreted with reference to the scales of the variables. Standardized parameter estimates are transformations of unstandardized estimates that remove scaling and can be used for informal comparisons of parameters throughout the model. Standardized estimates correspond to effect-size estimates.

Internal consistency was examined through Cronbach's  $\alpha$  internal-consistency reliability ( $\alpha$ ). Generally, alpha coefficient ranges in value from 0 to 1. Some authors (Fornell & Larcker, 1981;

Nunnally & Bernstein, 1994) consider alpha value higher or equal to .60 to be acceptable. De Vellis & Dancer (1991), instead, suggest that data gathered with factors yielding alpha value about .60 be treated with caution.

### **Relationships between career adaptability, hope and life satisfaction**

*Preliminary analysis.* Before to test the hypothesized model, different *preliminary analysis* were carried out. More specifically, indices of normality (e.g. skew, kurtosis) and normality of distributions using Kolmogorov-Smirnov statistic test were investigated. Secondly, means, standard deviations, and inter-correlations for the two groups separately were computed. Moreover, to test multicollinearity problem the variance inflation factors (VIFs) was used and different *t* test were carried out to verify across-group differences in career adaptability, hope and life satisfaction.

*Model invariance.* To test the hypothesized model a structural equation modeling (SEM) was used. SEM allows to examine the relationships between observed and latent variables, cross-group similarities and differences among multiple latent variables (Kline, 1998; Little, 1997). Based on research questions, the hypothesized model was tested in two different phases reported below.

*Measurement model invariance.* As recommended by Anderson and Gerbing (1988), the measurement model, that specifies the relationship between manifest indicators (e.g., observed variables) and latent constructs (e.g., unobserved variables), was evaluated using a multi-group approach. To create the latent variables of career adaptability, hope and life satisfaction, item parceling method was used as suggestion by Little, Cunningham, Shahar, & Widaman (2002). Specifically, for career adaptability and hope, the internal-consistency approach (Kishton & Widaman, 1994), considering the factors as observed indicators, was used. Therefore, four parcels for career adaptability and two parcels for hope were generated. Instead, for life satisfaction that is represented by a single dimension, the item-to-construct balancing technique (Little et al., 2002), creating two parcels, was used.

After, to test the invariance of measurement model across groups a sequence of nested measurement models (i.e. configural invariance and metric invariance) used the maximum-likelihood estimation method (Quintana & Maxwell, 1999) was executed. Configural invariance tests whether the basic model structure is equivalent among adults with and without SUD. Instead, metric invariance verifies whether the factor loading parameters are invariant across groups. If a latent factor has equal loadings across groups, this guarantees that each group responds to the items in the same way (Cheung & Rensvold, 2002). Finally, to compare the nested measurement models generated the chi-square difference test (Satorra & Bentler, 2001) and the change in the CFIs (Byrne & van de Vijver, 2010; Cheung & Rensvold, 2002) were used.

*Structural model invariance.* Multigroup structural analyses were conducted to test the group differences in the partial mediated model hypothesized. This analysis is appropriate for this study because it evaluates between-group differences respect to the partial mediation role of hope between career adaptability and life satisfaction. More specifically, two nested structural models were tested and compared: Model A<sub>0</sub>, where the relationship between career adaptability, hope and life satisfaction were hypothesized as free across group; Model A<sub>1</sub>, where the relationship between career adaptability, hope and life satisfaction were hypothesized equal across group.

To compare the nested structural models the chi-square difference test and the change in the CFIs were used. Moreover, to test the magnitude and significance of relationship effects, the bootstrapping procedure was used (Shrout and Bolger, 2002). Specifically, 1,000 bootstrap samples from the original dataset through random sampling with replacement were formed. If the 95% confidence interval (CI) for the mean indirect effect does not include zero, the indirect effect is considered statistically significant at the .05 level.

Finally, following Byrne and van de Vijver's (2010) suggestions, two competitive model, partial mediated model (Model A) and a fully mediated model (Model B) was compared using chi-square difference test and the change in the CFIs.

## Results

### Preliminary analyses about the psychometric properties of instruments

*Career Adapt-Abilities Scale.* The second order confirmatory factor analysis showed acceptable fit index [ $\chi^2(248) = 464.419$ ;  $p < .001$ ; CFI = .941; NNFI = .934; RMSEA = .081 (CI<sub>90</sub> = .069–.092); SRMR = .071] for the hierarchical factorial structure of the CAAS-Italy in adults with SUD. Moreover, the standardized loadings (see Table 1) suggested that all the items were strong indicators of the first-order constructs, which in turn were strong indicators of the second-order construct (career adaptability Total score). Finally, R<sup>2</sup> values ranged from .21 to .65 (see Table 1).

*The Adult Hope Scale.* Confirmatory factor analysis (CFA) showed good fit index [ $\chi^2(18) = 25.58$ ;  $p < .001$ ; CFI = .985; NNFI = .978; RMSEA = .051 (CI<sub>90</sub> = .000–.018); SRMR = .046] for factorial structure of the AHS-Italy in adults with SUD. The standardized loadings and the R<sup>2</sup> values are presented in Table 2.

*The Satisfaction with Life Scale.* Confirmatory factor analysis (CFA) showed good fit index [ $\chi^2(5) = 9.407$ ;  $p < .001$ ; CFI = .982; NNFI = .964; RMSEA = .081 (CI<sub>90</sub> = .00–.016); SRMR = .037]. The standardized loadings and the R<sup>2</sup> values are presented in Table 3.

*Internal consistency.* The analyses showed good internal consistency estimates for the three measures analyzed (see table 4).

### Relationships between Career adaptability, Hope and Life satisfaction.

*Preliminary analysis.* All variables analyzed in this study showed indices of skew, kurtosis adequate. Kolmogorov-Smirnov test for normality showed that only life satisfaction deviated from a normal distribution ( $p < .05$ ). Considering these results, parametric ( $t$  test) and non parametric test (Mann-Whitney Test) were carried out to test difference associated with type of substance (multi-drug/or combined drug user and alcohol vs alcohol user) and groups (adults with SUD vs adults without SUD) in career adaptability, hope and life satisfaction. No significant differences were

recorded between multi-drug/or combined drug user and alcohol vs alcohol user in career adaptability [ $t(183) = 1.509, p = .133$ ], hope [ $t(183) = 1.626, p = .106$ ] and life satisfaction [ $U = 1.442, p = .149$ ]. However, significant differences were recorded between participants with and without SUD on career adaptability [ $t(368) = 4.465, p < .001$ ]; hope [ $t(368) = 3.499, p = .001$ ], and life satisfaction [ $U = 10.304, p < .001$ ]. Adults with SUD reported lower levels of career adaptability, hope and life satisfaction than adults without SUD (see table 1). Moderate and strong positive correlations were observed among career adaptability, hope and life satisfaction across two groups (see table 1). The analysis showed that the VIFs index for all variables obtained (VIFs = 1) was much lower than the recommended 5.0 (Hair, Ringle, & Sarstedt, 2011). All these results confirm the importance of distinguishing adults with and without SUD when testing an overall model linking career adaptability, hope, and life satisfaction.

*Measurement invariance.* The baseline model freely estimated for both groups, revealed a good fit  $\chi^2(34) = 64.907; p = .001; CFI = .969; RMSEA = .070 (CI_{90} = .044-.096)$ . Then, it was tested the nested models using the scaled difference chi-square test ( $\Delta SB\chi^2$ ; Satorra & Bentler, 2001) and using the  $\Delta CFI$  tests. As shown in table 6, non-significant chi-square differences were observed between models when cross-group constraints were imposed on the models of configural and weak invariance. Also the CFI changes were less than .01 ( $\Delta CFI$  test; Cheung & Rensvold, 2002), when cross-group constraints were imposed on the models of configural and weak invariance.

*Structural model invariance.* In the second step, structural modeling was tested. Firstly, the hypothesized partial mediated model across adults with and without SUD was tested simultaneously with (Model A<sub>1</sub>) and without (Model A<sub>0</sub>) equality constraints. The Model A<sub>0</sub>, where the direct and indirect relationship between career adaptability, hope and life satisfaction were hypothesized as free across group, showed adequate fit index [ $\chi^2(39) = 83.818, CFI = .961, RMSEA = .079, SRMR = .047$ ] but in both two groups the direct path from career adaptability to life satisfaction was not significant. Also the Model A<sub>1</sub>, where the direct and indirect relationship between career adaptability, hope and



life satisfaction were hypothesized equal across group, showed adequate fit index [ $\chi^2(42) = 89.876$ , CFI = .959, RMSEA = .078, SRMR = .056] and the direct path from career adaptability to life satisfaction was not significant. The chi-square difference test between the Model A<sub>0</sub> and the Model A<sub>1</sub>, suggested that the Model A<sub>1</sub> did improve the fit compared with Model A<sub>0</sub> [ $\Delta\chi^2(3) = 6.06$ ,  $p > .05$ ]. Moreover, CFI changes were less than .01 between two models. Thus, the invariant mediated structural model is better supported.

Finally, the partial mediated model invariant across group (Model A<sub>1</sub>) was compared with a fully mediated model invariant across group (Model B<sub>1</sub>). The full mediated model tested showed adequate fit indices:  $\chi^2(43) = 90.839$ , CFI = .959, RMSEA = .078, SRMR = .056. Moreover, the chi-square difference test between the Model A<sub>1</sub> and the Model B<sub>1</sub> suggested that the Model B<sub>1</sub> did improve the fit compared with Model A<sub>0</sub> [ $\Delta\chi^2(1) = .96$ ,  $p > .05$ ]. Moreover, CFI changes were less than .01 between two models. Thus, the fully invariant mediated structural model (see figure 1) was better supported respect to the partially invariant mediated structural model.

The bootstrapping analysis highlighted that the BC bootstrap confidence interval for the indirect effect between career adaptability and life satisfaction through hope was between .179 and .458, which indicates that the mediation effect is significantly different from zero.

**Table 1. CAAS: Items, descriptive Statistics, Standardized Loadings, and R<sup>2</sup> indices**

Construct	Item (first-order indicators)	Mean	SD	Loading (24 items)	R <sup>2</sup>
Concern	1. Thinking about what my future will be like	3.39	.993	.463	.215
	2. Realizing that today's choices shape my future	3.89	1.084	.559	.313
	3. Preparing for the future	3.48	1.036	.644	.415
	4. Becoming aware of the educational and career choices that I must make	3.56	1.012	.580	.336
	5. Planning how to achieve my goals	3.49	1.071	.870	.651
	6. Concerned about my career	3.87	1.040	.535	.286
Control	1. Keeping upbeat	3.56	1.182	.640	.490
	2. Making decisions by myself	3.83	1.083	.543	.295
	3. Taking responsibility for my actions	4.07	.959	.591	.350
	4. Sticking up for my beliefs	4.09	.973	.512	.262
	5. Counting on myself	3.94	1.084	.671	.450
	6. Doing what's right for me	3.64	1.143	.723	.523
Curiosity	1. Exploring my surroundings	3.69	.950	.569	.324
	2. Looking for opportunities to grow as a person	3.70	1.095	.626	.392
	3. Investigating options before making a choice	3.63	1.070	.653	.426
	4. Observing different ways of doing things	3.53	.991	.641	.411
	5. Probing deeply into questions I have	3.77	.922	.468	.219
	6. Becoming curious about new opportunities	4.08	.962	.540	.292
Confidence	1. Performing tasks efficiently	4.17	.806	.564	.318
	2. Taking care to do things well	3.90	.929	.495	.245
	3. Learning new skills	4.08	.890	.718	.516
	4. Working up to my ability	4.05	.925	.759	.576
	5. Overcoming obstacles	3.69	.981	.741	.550
	6. Solving problems	3.61	1.037	.720	.493
	Construct (second-order indicators)	Mean	SD	Loading	R <sup>2</sup>
Adaptability	1. Concern	3.62	.715	.824	.678
	2. Control	3.86	.749	.984	.969
	3. Curiosity	3.73	.673	.869	.754
	4. Confidence	3.92	.676	.892	.796

**Table 2. AHS: Items, descriptive Statistics, Standardized Loadings, and R<sup>2</sup> indices**

Construct	Item	Mean	SD	Loading (24 items)	R <sup>2</sup>
Agency	10. I've been pretty successful in life.	2.22	.903	.520	.271
	12. I meet the goals that I set for myself.	2.84	.745	.716	.513
	9. My past experiences have prepared me well for my future.	3.08	.847	.434	.189
Pathway	2. I energetically pursue my goals.	3.07	.725	.682	.465
	4. There are lots of ways around any problem.	3.32	.798	.439	.192
	1. I can think of many ways to get out of a jam.	3.23	.732	.589	.347
	6. I can think of many ways to get the things in life that are important to me.	3.01	.828	.649	.421
	8. Even when others get discouraged, I know I can find a way to solve the problem.	3.01	.773	.777	.604

**Table 3. SLS: Items, descriptive Statistics, Standardized Loadings, and R<sup>2</sup> indices**

Item	Mean	SD	Loading (24 items)	R <sup>2</sup>
1. In most ways my life is close to my ideal.	3.60	1.70	.712	.508
2. The conditions of my life are excellent.	3.19	1.64	.663	.440
3. I am satisfied with my life.	3.82	1.77	.791	.625
4. So far I have gotten the important things I want in life.	4.05	1.86	.605	.367
5. If I could live my life over, I would change almost nothing.	3.41	2.25	.404	.163

**Table 4. Internal consistency estimates of measures**

Construct	Cronbach's alpha
Career Adaptability total score	.92
Concern	.78
Control	.78
Curiosity	.76
Confidence	.82
Agency	.69
Pathway	.70
Life Satisfaction	.75

**Table 5. Means, standard deviations and correlations**

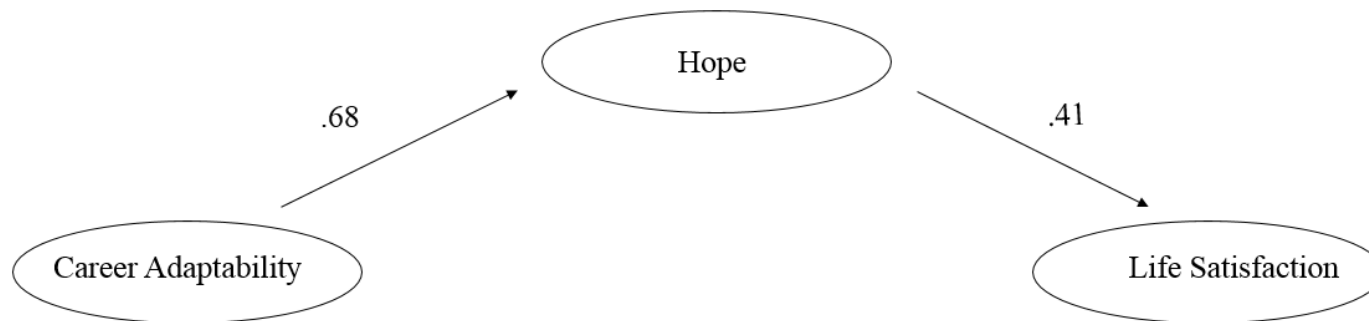
Study Variables	Adults whit SUD		Adults without SUD		1	2	3
	M	DS	M	DS			
1. Career Adapabilty	148.52	16.53	117.66	14.16	-	.63	.54
2. Hope	24.36	4.18	25.72	3.25	<b>.53</b>	-	.35
3. Life Satisfaction	16.50	5.91	23.57	5.54	<b>.58</b>	<b>.31</b>	-

*Note.* The correlations for the adults with SUD are in bold below the diagonal. All correlations significant at  $p < .01$

**Table 6. Fit indices for the nested measurement model**

Model	$\chi^2$	<i>df</i>	<i>p</i>	$\Delta SB\chi^2$	$\Delta df$	<i>P</i>	RMSEA	RMSEA 90%CI	CFI	$\Delta CFI$	SRMR
Configural invariance	64.91	34	.001	-	-	-	.070	.044-.096	.969	-	.042
Weak invariance	69.81	39	< .001	4.30	5	.507	.065	.040-.090	.969	.000	.059

**Figure 1. Significant Standardized Parameter Estimates in the Fully Mediated Model invariant across group**



### **Discussion on the first study**

Based on Life Design, the aim of this study was tested the relationship between career adaptability, hope and life satisfaction in adults with SUD compared to adults without SUD. Specifically, based on Savickas & Porfeli's suggestions (2012) and based on Rudolph et al.'s (2017) meta-analysis and Santilli et al.'s (2014) study using a multigroup method the mediating role of hope on the relationship between career adaptability and life satisfaction in individuals with SUD and without was tested.

The preliminary analysis carried out showed that adults with SUD showed lower levels of carer adaptability, hope and life satisfaction then adults without SUD. These results are consistent with Richardson et al.' (2012) study that showed as the people in treatment with SUD showed lower levels of different resources useful in life designing. All this can be explained by both neurocognitive factors (e.g. Bechara, Dolan, Denburg, Hinds, Anderson, & Nathan, 2001; Verdejo-García, & Pérez-García, 2007; Gustavson, Stallings, Corley, Miyake, Hewitt, & Friedman, 2017) and experiential and contextual factors (e.g. lower levels of education, few work experience; Richardson et al., 2012).

The results carried out showed also that hope fully mediated the relationship between career adaptability and life satisfaction across two groups. Despite the preliminary analyses showing mean differences between individuals with SUD and without SUD, their slopes were shown to be equal through the results of the multigroup SEM analyses.

Although these findings were not consistent with Rudolph et al.' (2017) and Santilli at al.' (2014) studies about the direct effects of career adaptability on life satisfaction, were in line with other studies that emphasized only the indirect relationship between career adaptability and life satisfaction (e.g. Duffy et al., 2015; Santilli et al., in press; Ginevra et al., 2017). However, it means that career adaptability influences the determination to start and sustain behaviors aimed at achieving goals (agency) and the plans for goal achievement (pathway) that lead to more life satisfaction. Specifically, being characterized by a set of individual resources related to ability to project

themselves into the future (concern), personal responsibility for own personal and professional experiences (control), propensity to explore the environment and the self (curiosity), and self-efficacy in own abilities to positively overcome and respond to stressful situations (confidence) may favor in individuals with and without SUD positive feelings to face difficulties and to succeed in what it is important for them (Scioli et al., 2011), thus stimulating even greater feelings of life satisfaction.

Taken together, these results suggest that cognitions about life events, about difficulties and challenges encountered by individuals with SUD are more pertaining to psychological wellbeing than to the events themselves (Kashadan et al., 2002). It seems that career adaptability and hope do not entail less stressful events, but they rather bear the perception of being capable of projecting goals and planning strategies for reaching them, and thus a positive perception of subjective quality of life.

## **Study 2. Courage and Substance User Disorder**

The purpose of this study was twofold: firstly, the predictive effect of courage on life satisfaction in adults with and without SUD was tested; secondly, the personal stories of courage of individuals with SUD in order to identify the themes, meanings, and types of courage performed were examined.

Regarding the first goal, keeping in mind different studies, (e.g. Gilman & Huebner, 2003; Pavot & Diener, 1993; Peterson et al., 2007; Proyer et al., 2013; Santilli et al., in press) that courage predict well-being, life satisfaction and quality of life in people with and without vulnerability, it was expected that, beyond addiction, courage positively predicted individual's life satisfaction.

Regarding the second goal, based on Putman (2004; 2010), that emphasizes the role of psychological courage in respect to other types of courage (physical and moral) to help individual to face challenges related to substance use rehabilitation, it was expected that individuals with SUD described more frequently courageous behaviors in overcoming psychological risks than physical and moral risks, especially when these stories were referred to the addiction than other life situations.

### **Participants**

The sample included 254 adults with (127) and without (127) SUD balanced for gender (88 men and 39 women by group). More specifically, the participants were 40 years old ( $SD = 10.16$ ); the adults with SUD were 40.98 years old ( $SD = 9.74$ ) and adults without SUD were 39.02 years old ( $SD = 10.50$ ). Participants with SUD had on average 9.72 years of education ( $DS = 2.64$ ) and adults without SUD had 13.08 ( $DS = 3.66$ ) years of education. As regards the adults with SUD, at moment of investigation they were all in treatment for SUD. Specifically, the participants reported to have a problem in substance use on average by 11.05 years ( $DS = 9.58$ ). Primary substance of use was multi-drug/or combined drug and alcohol among 70.1% (89 participants) and only alcohol among 29.9%



(38 participants). No significant differences were recorded between individuals with and without SUD about age [ $t(252) = 1.53; p = .127$ ]. However, the participants with SUD reported lower levels of education than individuals without SUD [ $t(252) = 8.39; p < .001$ ].

Moreover, a subgroup of the sample of individuals with SUD were also interviewed in a face-to-face interview aimed at examining the most courageous action that they had performed during their life. The sub-sample included 80 individuals in treatment for SUD, of which 57 (71.3%) men and 23 (28.8%) women.

## Measures

**Courage Measure - Reduced version** (CMR - Howard & Alipour, 2015). The measure consists of 6 items developed to investigate an operational definition of courage “persistence or perseverance despite having fear.” Items were rated by a 7-point Likert-type scale, from 1 (Never) to 7 (Always). Examples of items are: “I tend to face my fears; “Even if I feel terrified, I will stay in that situation until I have done what I need to do”. The authors showed good internal consistency estimates (Alpha = .87). In a study carried out to adapt and validate the Italian version of the scale in a group of adults, Ginevra and Ferrari (2015) confirmed a mono-factorial structure, accounting for 49.65% of the total variance and a Cronbach’s alpha of .82.

**The Satisfaction with Life Scale** (SLS; Diener et al., 1985). For this study was used the Italian version of scale. In this study Cronbach’s alphas is .83.

**Courage Interview.** A semi-structured format interview, developed considering the studies of Pury et al. (2014) and Korner (2014), was used. The interview was introduced to participants as follows: “*The purpose of the present interview is to better understand the experience of courage that the persons live in your life. Life is often complex and difficult and for this, life requires patience, perseverance and courage. In your experience, have you been courageous? If yes, try to describe a situation during which you were a courageous person?*”. Next, participants were invited to describe

their the most courageous action that they had performed during their life, and describe where the event occurred, which other persons were involved, how they felt and what they thought, what the consequences were, and how the other people behaved in that situation.

## **Procedure**

The same procedure of study 1 was used.

## **Data analysis**

**Preliminary analysis about the psychometric properties of Courage Measure - Reduced version** (CMR - Howard & Alipour, 2015). Although the Courage Measures - Reduced version has been already adapted to the Italian context, it has not been used with adults with SUD; therefore the analysis of its psychometric proprieties in the sample of adults with SUD was preliminary tested. With this aim, the Confirmatory factor analysis (CFA) was used, and the internal consistency was examined through Cronbach's  $\alpha$  internal-consistency reliability ( $\alpha$ ).

**Relations between courage and life satisfaction.** First *preliminary analysis* were carried out. More specifically, two different ANOVAs analysis ware carried out to test difference associated with type of substance (multi-drug/or combined drug user and alcohol vs alcohol user) and groups (adults with SUD vs adults without SUD) in courage and life satisfaction. Correlations among courage and life satisfaction divided for adults with and without SUD were tested. After, *multivariate tests* were carried out using regression analyses. In Step 1 of the regression model, some control variables were entered (age and years of education). In Step 2, variable group (with and without SUD) was added to the model to determine the extent to which it predicted variance in life satisfaction beyond of the control variables. In the Step 3, courage was added to the model to determine the extent to which it predicted variance in life satisfaction beyond of the control and addiction variables.

**Stories of courage of individuals with SUD.** A mixed methods design was used in order to combine qualitative and quantitative procedures within a single study. Particularly, a “mixed method embedded design” that consisting in the embedding of quantitative analyses within qualitative data (Creswell & Plano Clark, 2011) was used. Qualitative procedures were used to categorize the stories of courage in term of themes and types of courage performed; quantitative procedures were used to test main and interaction effect between themes and types of courage.

*Qualitative procedure.* In order to search main themes to the description of the phenomenon, it has been used a qualitative analysis based on the thematic analysis procedure (Daly, Kellehear, & Gliksman, 1997; Fereday & Muir-Cochrane, 2006). More specifically, a hybrid approach of qualitative methods of thematic analysis was used to generate codes of analysis (Miller & Shifflet, 2016; Fereday & Muir-Cochrane, 2006). Following this approach, deductive and inductive codes were generated by two independent researchers. After this, the codes generated were applied to several writing samples to determine the applicability and reliability of the codes (Boyatzis, 1998). The range of Cohen’s Kappa inter-rater reliability index obtained was .75 -.88. In case of divergence in the classification, researchers met and tried to reach consensus. Once the codes were revised to reflect the data set, the codes were applied to the full sample of data (Miller & Shifflet, 2016).

*Quantitative procedure.* Quantitative analyses were carried out using R software. Specifically, in order to test main and interaction effect between themes of courage stories (addiction related vs not addiction related) and types of courage (moral vs psychological vs physical) General Lineal Model with Poisson distribution analysis was used (Agresti, & Kateri, 2011). Two model with and without interaction effect was compared using Akaike information criterion (AIC; Akaike, 1973) and Bayesian information criterion (BIC; see Wagenmakers, 2007). AIC and BIC allows to compare non-nested and nested models. Given a set of models that share the same null model, the model with the smallest AIC and BIC represents the best fitting model (Snipes & Taylor, 2014; Wagenmakers, 2007). Moreover, to quantify the evidence of the best fitting model against the competing models, the

differences between model BICs were evaluated. Difference in BIC between 0 and 2 indicates weak evidence, a difference between 2 and 6 indicates positive evidence, a difference between 6 and 10 indicates strong evidence, and a difference larger than 10 indicates very strong evidence for the best fitting model (Raftery, 1995; Wagenmakers, 2007).

## Results

**Preliminary analysis about the psychometric properties of Courage Measure - Reduced version (CMR - Howard & Alipour, 2015).** Confirmatory factor analyses (CFA) showed acceptable fit index [ $\chi^2(9) = 14.069$ ;  $p < .001$ ; CFI = .986; NNFI = .977; RMSEA = .065 (CI<sub>90</sub> = .00–.013); SRMR = .041] for factorial structure of the CM-Italy in adults with SUD. The standardized loadings and the R<sup>2</sup> values are presented in Table 8. Moreover, the analysis showed a good internal consistency estimates ( $\alpha = .81$ ).

**Relations between courage and life satisfaction.** The ANOVAs preliminary analysis showed no significant differences were recorded between multi-drug/or combined drug user and alcohol vs alcohol user on courage [ $F(1, 126) = .11$ ,  $p = .738$ ,  $\eta^2 = .001$ ] and on life satisfaction [ $F(1, 126) = 3.52$ ,  $p = .63$ ,  $\eta^2 = .027$ ]. However, significant differences were recorded between participants with and without SUD on courage [ $F(1, 253) = 16.86$ ,  $p < .001$ ,  $\eta^2 = .063$ ] and on life satisfaction [ $F(1, 253) = .991$ ,  $p = .32$ ,  $\eta^2 = .004$ ]. Specifically, adults with SUD showed lower of life satisfaction than adults without SUD (see Table 9). Positive and significant correlations were observed among courage and life satisfaction in adults with and without SUD (see Table 9). Finally, multivariate regression analysis showed that groups ( $\Delta R^2 = .044$ ,  $p = .001$ ) and courage ( $\Delta R^2 = .067$ ,  $p < .001$ ) added significant variance to life satisfaction. More specifically, addiction variable negatively predicted life satisfaction while courage positively predicted life satisfaction (see Table 10).

**Analysis about stories on courage.** First, as suggested by Pury et al. (2014), the types of courage (physical, moral and psychological courage) have been divided, considering the frequency

of internal and external advantages and obstacles reported in the stories. After this, the themes underlying the stories of courage were examined. Finally, main and interaction effects between themes and types of courage were reported.

**Types of Courage.** The stories of courage are addressed with a description of the type of courage in Table 11. 13.8% of the stories referred to physical courage. These stories were characterized mainly by internal obstacles (71% of these stories referred to physical risks) and internal benefits (67.5%; e.g. *self-esteem increase*). 10% of the stories referred to moral courage; and in particular these stories, were characterized mainly by external obstacles (100% that refer to risk associated with the fear of losing the consensus of others) and by internal benefits (87.5%). Most of the stories (76.3%) referred to a psychological courage, and were characterized mainly by internal obstacles (100% - in terms of psychological stability risk) and by internal benefits (70.5%; e.g. *self-confidence, well-being, care*).

**Themes underlying stories of courage.** Stories of courage are addressed with a description of the emerged themes (classification units) and with quotes of categories. Table 12 presents an overview of all themes and categories. More specifically, as regards the themes, two classification units were identified: stories related to addiction and stories not related to addiction.

**Stories related to addiction.** More than half of the participants (63.8%) reported courage stories related to their addiction. More specifically, as reported in table 11, 23% of participants reported to have been courageous at the time when they decided to start the treatment and to face the therapeutic pathway (e.g. *to start treatment and face once and for all my problems with substances ... to accept what I am now ... the fact of facing every day that passes by with many difficulties*). 33.8% of participants reported to have been courageous at the time when they begin to accept difficult past behaviors (e.g. *to give her daughter a trust; to steal cars; to do robberies; to present at work under the effect of substances; to have suffered a rape; to have suffered violence from his father*). 6.3% of participants reported to have been courageous at the time when they have decided to face new

challenges for the benefit of their future despite the fear of failure (e.g. *to start a course of study; to go back to work*).

*Stories not related to addiction.* 36.3% of participants reported stories of courage not related to their addiction. More specifically, as reported in table 11, 12.5% of participants reported to have been courageous at the time when they saved or helped a person in difficulty (e.g. *to save a boyfriend at sea while he was drowning*). 18.8% of participants reported to have been courageous in a work context (e.g. *to have faced a difficult task; to have taken a great responsibility*) and 5% of participants reported to have been courageous in other situations (e.g. *to roll from a considerable height*)

**Main and interaction effects between types of courage and themes.** General Lineal Model with Poisson distribution analysis showed a significant main effect for types of courage [ $\chi^2(2) = 62.21; p < .001$ ] and a significant interaction effect between types of courage and themes [ $\chi^2(2) = 27.97; p < .001$ ]. Moreover, based on  $\Delta$ BIC and  $\Delta$ AIC test ( $\Delta$ BIC = 24.38;  $\Delta$ AIC = 23.97) the model with main and indirection effects (BIC = 31.71; AIC = 32.96) represented the best fitting model respect to the model with only main effect (BIC = 56.10; AIC = 56.93). After, in order to explore more in detail the significant main and interaction effects obtained different Chi-squared test with Bonferroni correction were carried out. The analysis showed that participants described more frequently courageous behaviors in overcoming psychological risks than physical risks [ $\chi^2(2) = 40.95; p < .001$ ] and moral risks [ $\chi^2(2) = 28.54; p < .001$ ] (see Table 13). Moreover, the post-hoc analysis with Bonferroni correction showed that participants described more frequently courageous behaviors in overcoming psychological risks when these stories were referred to the addiction [ $\chi^2(2) = 40.95; p < .001$ ] then other life situations [ $\chi^2(2) = 40.95; p < .001$ ].

**Table 8. CMR: Items, descriptive Statistics, Standardized Loadings, and R<sup>2</sup> indices**

Item	Mean	SD	Loading (6 items)	R <sup>2</sup>
1. I tend to face my fears.	4.65	1.73	.628	.394
3. Even if I feel terrified, I will stay in that situation until I have done what I need to do.	4.79	1.73	.634	.402
7. I will do things even though they seem to be dangerous.	4.50	1.92	.412	.169
9. If I am worried or anxious about something, I will do or face it anyway.	4.15	1.75	.764	.584
10 If there is an important reason to face something that scares me, I will face it.	5.22	1.66	.678	.459
11 Even if something scares me, I will not back down	4.94	1.67	.838	.702

**Table 9. Means, standard deviations and correlations**

Study Variables	Adults with SUD		Adults without SUD		1	2
	M	DS	M	DS		
1. Life satisfaction	18.90	6.00	22.09	6.38	-	.314
2. Courage	28.07	7.34	28.91	5.97	<b>.233</b>	-

*Note.* The correlation for adults with SUD is in bold below the diagonal. All correlations significant at  $p < .001$

**Table 10. Regression Analyses**

Study Variable	Life Satisfaction		
	Step 1	Step 2	Step 3
Chronological age	-.02	-.03	-.01
Age of education	.12	.00	.00
Group (With SUD =1; Without SUD =2)		.24*	.23*
Courage			.26**
Total $R^2$	.02	.06*	.13**
$\Delta$ in $R^2$		.04*	.07**

\*  $p \leq .01$ ; \*\* $p < .001$



**Table 11. Types of Courage. Frequencies and percentages of obstacles and benefits characterizing the different types of courage.**

Types of courage	Stories of courage		External obstacles		Internal Obstacles		External Benefits		Internal Benefits		Exterior and interior benefits	
	f	%	f	%	f	%	f	%	f	%	f	%
Physical Courage	11	13.8	9	11.3	71	88.8	6	7.5	56	67.5	20	25
Moral Courage	8	10.0	8	100	0	0	0	0	7	87.5	1	12.5
Psychological Courage	61	76.3	0	0	61	100	3	4.99	43	70.5	15	24.6

**Table 12. Frequencies and percentages of courage stories categories.**

Themes of Courage Stories	Categories	F	%
Addiction related (63.8%)	Courage to start treatments and to face the therapeutic pathway	19	23
	Courage to accept difficult past behaviors	27	33.8
	Courage to face new challenges for the benefit of their future despite the fear of failure	5	6.3
No Addiction related (36.3%)	Courage to help other persons	10	12.5
	Courage in work contest	15	18.8
	Courage in other situation	4	5

**Table 13. Frequencies and percentages of the different types of courage for different themes (addiction and no addiction related).**

Types of courage	Themes of Courage Stories			
	Addiction related		No addiction related	
	f	%	f	%
Physical Courage	0	0	11	100
Moral Courage	4	50	4	50
Psychological Courage	47	77	14	23

### **Discussion on second study**

The goal of this second study was to analyze courage in adults with SUD, a new positive dimension recently emphasized in the Life Design Approach. More specifically, the aim of this study was twofold: firstly, the predictive effect of courage on life satisfaction in adults with and without SUD was tested; secondly, personal stories of courage of individuals with SUD in order to identify the themes, meanings, and type of courage performed were examined.

As regards the first goal, based on different studies, (e.g. Peterson et al. 2007; Pavot & Diener, 1993; Gilman & Huebner, 2003; Proyer, Ruch & Buschor, 2013; Santilli et al., in press) the predictive role of courage on life satisfaction, beyond the addiction condition, was tested. In respect of this, the multivariate regression analysis carried out showed that to have addiction predicts a negative way the life satisfaction but the courage predicts a positive way life satisfaction beyond the addiction variable and other control variables such as age and years of education. It means that the tendency to act with or without varying levels of fear, in response to a threat to achieve an important outcome or goal positively influences the feelings of life satisfaction (Kilmann, O'Hara, & Strauss, 2010). These results are in line with Seligman and colleagues (Seligman, 2002; Seligman & Csikszentmihalyi, 2014; Savickas et al., 2009) that affirm the crucial role of courage to face obstacles and challenges in personal and professional life.

As regards the second goal, the qualitative and quantitative analysis carried out showed that individuals with SUD reported more frequently personal stories of courage related to their SUD condition (e.g. courage to start treatment and to face the therapeutic pathway; courage to accept difficult past behaviors; courage to face new challenges for the benefit of their future despite the fear of failure) in respect to personal stories of courage related to other life situations (e.g. Courage to help other people, courage in work context and courage in other situations). Moreover, individuals with SUD described more frequently courageous behaviors in overcoming psychological risks than physical and moral risks, especially when these stories were referred to the addiction than other life

situations. This mechanism can be explained by the theorizing of Putman (2004; 2010). More specifically, for Putman, taking on an addiction requires more psychological courage in respect to moral and physical courage, in particular to face challenges related to their past experiences and choices but also to face challenges related to personal and professional future planning.

## **General discussion**

The aim of this research project is to provide a better understanding of the mechanisms involved in the promotion of life satisfaction in adults with SUD. With this aim, two different studies were carried out: in the first study, the attention was focused on career adaptability and hope and their relationship with life satisfaction in individuals with SUD. More specifically, it was tested the mediating role of hope in the relationship between career adaptability and life satisfaction in a group of individuals with SUD and simultaneously the invariance of this model across individuals with and without SUD was verified; in the second study, the attention was focused on courage. More specifically, it was tested the predictive role of courage on life satisfaction, beyond the addiction condition, using a multivariate regression analysis. Additionally, personal stories of courage reported by a group of individuals with SUD, through qualitative and quantitative analysis, were analyzed in order to identify themes, meanings, and types of courage performed.

Considering this aim, this research project has important theoretical and applicative implications. The main theoretical implication of this research project was to study the positive and predictive role of relevant constructs in vocational rehabilitation interventions such as career adaptability, hope, courage on life satisfaction in adults with SUD, considering that it has never been studied before in this population. More specifically, the results obtained showed that career adaptability positively predicts life satisfaction through hope in individuals in treatment for SUD. Additionally, courage also positively predicts life satisfaction in this group of individuals with vulnerability. Considering that Life satisfaction is believed to be an important diagnostic and outcome criteria in substance use disorder issues (Assari, & Jafari, 2010; Laudet et al., 2006; Rudolf & Watts, 2002; Smith & Larson, 2003), it is possible to hypothesize that this results can provide a main theoretical implication in substance use disorder issues.

Additionally, the theoretical implication of this research project is related to study courage in adults with SUD. More specifically, as reported in the theoretical chapter, courage was a dimension emphasized in substance use disorder rehabilitation issues but empirical studies on this dimension that involved individuals with SUD available in the literature are scarce. In particular, the results obtained in this research project showed, for the first time, that courage predicts life satisfaction in adults with SUD and that individuals with SUD described more frequently courageous behaviors in overcoming psychological risks than physical and moral risks, especially when these stories were referred to the addiction rather than to other life situations. This last result can be considered relevant because it provides empirical support to Putman's theoretical assumptions (2004; 2010).

Finally, it is possible to hypothesize that this research project makes a research and theory contribution also in vocational and career counseling issues. As a matter of fact, as reported in the introductory theoretical section: vocational guidance, career education and career counseling scholars have actually neglected to apply the results of their research and their theoretical models to populations with vulnerability (Blustein, 2001). The Life Design Approach has taken up this challenge; as a matter of fact, there are several studies, currently present in literature, that show how the theoretical assumptions of life design are applicable to people with and without vulnerability (e.g. Santilli et al., 2014; Ferrari et al., 2015; Wehmeyer et al., in press). Despite this, however, as argued in the theoretical part of this research, the theoretical presumptions of the Life Design Approach have not yet been studied in people with SUD. The results obtained in this research project showed that a) the factorial structure of the instruments object of study was confirmed also in adults with SUD; b) the theoretical model of the relationship between career adaptability and life satisfaction through the mediating role of hope was invariant in adults with and without SUD; c) courage positively predicted life satisfaction beyond the addiction condition. In others words, the instruments, dimensions and models of analysis emphasized in the Life Design Approach seem to be valid and applicable also for people with SUD.

Considering this, it is possible to hypothesize that the results obtained in this research project can be considered relevant to increase theoretical knowledge in substance use disorder and in the vocational and career counseling issues.

As regards the applicative implication, considering that the factorial structure of the instrument object of study (CAAS, AHS, SLS, CMR) was confirmed also in individuals with SUD, these instruments can be used in career counseling and career education activities to assess life design resources and set up intervention programs that can better respond to adults with SUD life design needs and in the pre- and post-test phases of different rehabilitation interventions to verify the effectiveness of rehabilitation activities. Additionally, the results obtained provide useful information to plan interventions to increase life satisfaction and core ability for designing future. More specifically, as reported before, the results obtained in this research project showed that career adaptability, hope and courage can be considered crucial variables to increase life satisfaction in adults with SUD, and for this reason, can be considered important to develop interventions aimed to increase these dimensions in individuals with SUD.

Regarding career adaptability, career counselors could propose orientation activities to promote career concern, exercises of career decision making to promote career control, seeking-information activities to promote curiosity on self and the external environment, and using techniques such as modeling and vicarious learning, to promote career confidence (Rossier, 2015).

Regarding hope, following Snyder (2000), career counselors could propose orientation activities to promote the motivational component (agency) and the pathway component of hope. According to Snyder (2000) to increase agency, it can be useful to help clients to identify the goals they want to achieve. Agency thinking is particularly pertinent when goals are blocked because it enables clients to channel motivation into 'unblocked' pathways (Lloyd & Hastings, 2009). To increase pathways, it could be useful to propose exercises aiming to find strategies to reach goals (the 'know how' cognition). To increase pathways can be useful to promote psychological well-being

and positive thinking and to decrease the absence of learned helplessness or hopelessness (Lloyd & Hastings, 2009).

Regarding courage, career counselors could help individuals with SUD to increase self-efficacy of handling the risk, emphasize the purpose of courageous behaviour, and reduce their perception of risk (Pury et al., 2014). More specifically, self-efficacy beliefs in handling perceived risks can be increased by using direct or vicarious models of adults with SUD who have succeeded in facing their fears related to the future and in persisting to reach their future goals, and setting up situations that envisage successful experiences for individuals with SUD and helping them recognizing the previous successes reached in overcoming their fears. Career counselors could also stimulate their clients to examine the purpose of the courageous behaviour by using the principles of utility of their future goals, and identify resources and strategies to overcome these fears (Pury et al., 2014)

Besides individual career counseling (Duarte & Cardoso, 2015), group life design interventions could be implemented to increase these resources (Rossier, 2015). In this regard, a recently vocational counseling intervention developed by Ginevra, Di Maggio, Nota & Soresi (2017) could be used for adults with SUD because: a) it is based on the Life Design paradigm; b) it provides high levels of personalization using narrative techniques so that it can be applied in contexts of vocational rehabilitation with different populations with vulnerability; c) it aims to increase career adaptability, positive researchers and plans for the future; d) the efficacy was tested in a meticulous way with adults with vulnerability. More specifically, this career intervention, denominated “Feeling good today...for a future of quality!”, aimed at fostering a series of resources to cope with career difficulty, to encourage reflecting on the future, to identify one’s own strengths, and to plan future projects. This intervention is not a structured training on one construct (e.g., career adaptability; Koen, Klehe, & Van Vianen, 2012) and it provides high levels of personalization, using narrative techniques so that it can be applied in contexts of vocational rehabilitation with different adults with



vulnerability. It is based on some key concepts of the Life Design approach, i.e. reflection, narratability, attention to one's own strengths in one's personal resources, such as career adaptability, hope, courage, resilience, future orientation. To evaluate the effectiveness of the career intervention, the authors, involving adult immigrants, used various statistic methods, including statistical significance tests, clinical significance tests, and the evaluation of the satisfaction and perceived utility of the career intervention, as indicators of social validity. Multiple methods confirmed the effectiveness of the intervention (see Ginevra et al., 2017). This intervention, with the collaboration of the SerD of Padova, is in phase of experimentation in different centers of rehabilitation for adults with SUD.

*Limitations and directions for future studies.* The limitations of this research project indicate several avenues for future research. More specifically, the current study is limited from different methodological aspects. First, although structural equation methods and multivariate regression analysis were carried out to examine "causal" hypotheses, the data collected were cross-sectional and, therefore, could not offer evidence of actual causation. In future researches it could be used a structural equation longitudinal method; Second, self-reported measures were used to assess career adaptability, hope, courage and life satisfaction. Future studies could consider different methods in order to diminish the influence of the bias to self-reports; Third, the participants involved in this research project were predominantly men. However, this gender discrepancy is linked to the fact that in Italy 86.2% of users of the Services for Diagnosis and Care of Dependencies - Ser.D are men (Dipartimento Politiche Antidroga - Department of Anti-Drug Policies, 2016). Future studies should consider and analyze the role of gender variables on future design factors in people with SUD. Additionally, in the future, researchers should also test the predictive and mediation role of career adaptability, hope and courage in different outcomes related to success in therapy, in work and social inclusion in people with SUD.

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