

## **Substance abuse among health professionals: A personal construct analysis**

Francisco José Eiroa-Orosa<sup>a</sup>, Silvia Gebac<sup>a</sup>, María Dolores Braquehais<sup>b</sup>, Enric Llavayol<sup>b</sup>, Alejandro Garcia-Gutierrez<sup>a</sup> and Guillem Feixas<sup>a</sup>

- a) Section of Personality, Evaluation and Psychological Treatment, Department of Clinical Psychology and Psychobiology, Institute of Neurosciences, School of Psychology, Universitat de Barcelona, Barcelona, Catalonia, Spain
- b) Integral Caring Programme for Sick Health Professionals, Galatea Clinic, Galatea Foundation, Col·legi Oficial de Metges de Barcelona, Barcelona, Catalonia, Spain

### Author Note

Correspondence should be addressed to Dr. Francisco José Eiroa Orosa, Section of Personality, Evaluation and Psychological Treatment, Department of Clinical Psychology and Psychobiology, School of Psychology, Universitat de Barcelona, Campus Mundet, Passeig de la Vall d'Hebron, 171, 08035, Barcelona, Catalonia, Spain. [fjeiroa@gmail.com](mailto:fjeiroa@gmail.com), [fjeiroa@ub.edu](mailto:fjeiroa@ub.edu)

## **Substance abuse among health professionals:**

### **A personal construct analysis**

#### **Abstract**

This study aims to describe health professionals who abuse substances in terms of their personal construing process and other associated psychological measures. Thirty health professionals hospitalized because of a substance use disorder in a specialized clinic were recruited for this study. In the same way as in previous studies carried out in clinical populations, more than half of the participants presented cognitive conflicts (in the form of implicative dilemmas) and this group scored higher on trait anxiety and burnout than health professionals without such conflicts. No statistically significant differences were found between those with implicative dilemmas and those without in terms of depression symptoms or state of anxiety. A logistic regression showed that the presence of cognitive conflicts was best predicted by burnout. Distance between ideal and actual self and cognitive complexity were the best predictors of belonging to our clinical sample or to a randomly matched community sample. Content analysis of the constructs revealed an overrepresentation of values and interests in the clinical sample. The findings are discussed in relation to previous research in substance use, cognitive conflicts in the clinical population and identity construction.

*Key words: addiction; burn out, cognitive conflicts; health professionals; identity; personal construct theory; substance abuse.*

## **Introduction**

### **Substance use and abuse among health professionals**

Medical professionals take an oath to provide competent care, be compassionate with their patients and respectful of human dignity (Meffert, 2009). However, when impaired by substance use, they can become unable to practice. In these situations their reasoning skills as well as their ability to safeguard their patients could be put into question, constituting a violation of their code of conduct (Brotherton, Kao, & Crigger, 2016).

Alcohol and drug abuse amongst health professionals has been well documented in terms of pervasiveness and causes for risk-taking behaviors (Verghese, 2002). It has been known for a long time that the most prevalent causes of malpractice issues related to mental disorders among physicians are substance use disorders (Talbot & Wright, 1987). Moreover, it has also been suggested that around 10-15% of medical professionals would be diagnosed with a substance use disorder (SUD) in their lifetime (Baldisseri, 2007). This figure is not, however, larger than that of the general population, both showing similar rates (Compton & Volkow, 2006). Nonetheless, doctors might be more likely to misuse legal drugs (Merlo & Gold, 2008). Around two thirds of drug abuse in this population is self-prescribed in order to relieve stress and physical or emotional pain (Merlo, Singhakant, Cummings, & Cottler, 2013), rather than as a recreational behavior (Merlo et al., 2013). Unlike the general population, who might resort to drug use, what sets this population apart is their easy access to medication often leading to perpetuating, hidden consumption (Verghese, 2002). Another factor that poses risk among health professionals with addictive disorders is delay in help seeking, mainly related to high subjective standards of perfectionism together with a paradoxical high self-stigmatization

associated with mental suffering (Braquehais, Tresidder, & DuPont, 2015; Brooks et al., 2014; Henderson et al., 2012).

Substance abuse problems span across all specialties and grades of seniority; however, psychiatrists, anesthesiologists, and doctors in emergency medicine have often been found to have the highest rate of substance use (Cottler et al., 2013; Hughes, Baldwin, Sheehan, Conard, & Storr, 1992; McLellan, Skipper, Campbell, & DuPont, 2008; Myers & Weiss, 1987). Additional risk factors for health professionals include: anxiety, depression, psychological difficulties, work related stress, family stress, bereavement, work injury, pain or a non-specific drift into drinking (Brooke, Edwards, & Andrews, 1993). The relationship between work-related stress and substance use has been suggested to be mediated by individual psychological factors such as difficulties in childhood, affecting perceived stress in adults (Brewin, Firth-Cozens, Furnham, & McManus, 1992; Firth-Cozens, 1992). Other psychological risk factors include: perfectionist traits, poor self-esteem, difficulty confiding in others and a low tolerance for frustration (Bissell, 1987). Moreover, substance abuse has been linked with previous depression and anxiety episodes across all ages, with a heightened risk of suicide in the health professionals group (Berge, Seppala, & Schipper, 2009; Bissell, 1987; Mahmood, Støen Grotmol, Tesli, Vaglum, & Tyssen, 2017). Additionally, female health professionals with alcohol problems often had a history of substance abuse in their family, suffered from depression that was undetected, and were found to be at a greater risk of suicide (Braquehais et al., 2016).

Taking into account health professionals' mental disorders presentation, health professionals' health programs have been developed in several countries aiming to provide specialized interventions for this professional group (Braquehais et al., 2015).

Considering the prevalence of substance use among the medical population and its implications both on their ability to practice as well as at a personal level, we believe this issue deserves a special consideration for research.

### **Personal Construct Theory**

As a constructivist theory, Personal Construct Theory (PCT) holds that every individual has a specific way of construing events using their own 'constructs', i.e. particular dimensions of meaning of bipolar form, some of which (which Kelly termed core constructs) are central to the person's identity. This complex system is used to understand the world, oneself and others, as well as to predict future events and behaviors. In order to paint an accurate view of the world, the system is constantly subject to validation to meet new challenges and events (Kelly, 1955). If the predictive capacity of the system fails, invalidation might cause distress due to uncertainty.

Investigations of people's construct systems have been carried out not only in counselling and clinical settings, but also in a range of other contexts, including organizational development, education, business and marketing; exploring such topics as interpersonal relationships, self-identity, cognitive structure, and dilemmas that might arise as an individual tries to understand him/herself and the world (Winter, 1992; Winter & Reed, 2015).

Kelly (1955) proposed not only a very complex and detailed theory but also an application in the form of an assessment instrument – the Repertory Grid Technique (RGT). This follows Kelly's (1955) notion of every person being his or her own scientist. As such, the method takes the form of a mapping technique performed through a semi-structured interview which is used to elicit personal constructs and elements of the person's world to which these constructs are applied (Fransella, Bell, & Bannister, 2004).

No single RGT could reveal a person's entire construct system, but uncover some specific constructs and show the way in which they are used (Beail, 1985).

### **Cognitive Conflicts**

The notion of cognitive conflicts has many interpretations and meanings depending on the psychological approach taken. For instance, in psychoanalysis, conflict is regarded as the internal dynamics of the psyche. According to social cognitive theories, conflict is considered as cognitive dissonance, a state of contradictory thoughts and cognitions about social reality (Festinger, 1975).

Cognitive conflicts have also been interpreted through the PCT prism, focusing on dilemmatic constructs and implicative dilemmas as revealed through the RGT (Feixas & Saúl, 2004).

Dilemmatic constructs have been considered markers of cognitive conflict (Feixas & Saúl, 2004). When envisioning the future, according to the Choice Corollary (Kelly, 1955), "a person chooses for himself that alternative in a dichotomized construct through which he anticipates the greater possibility for extension and definition of his system" (p. 64). If neither of the alternatives seems appropriate for the 'ideal self', as is the case in dilemmatic constructs, a person might remain ambivalent, unsure of which course of action to take. It has been hypothesized that the presence of dilemmatic constructs in the RGT might indicate that a person has not developed meaningful constructions useful for predicting events, giving way to feelings of insecurity and avoidance (Feixas & Saúl, 2004).

Implicative dilemmas are other markers of cognitive conflict (Feixas & Saúl, 2004). For some persons, recovery — understood as symptom remission — might produce negative repercussions for their self-construction or personal identity. If the person applies to him/herself a construct pole describing a symptom, but this construct

pole is correlated with the preferred pole of one of the person's core constructs, the person might resist change as an attempt to maintain his or her identity and avoid major invalidation. The conflict arises in the struggle to change one aspect of oneself whilst maintaining other important aspects intact. Cognitive conflicts measured in this way have been studied in a number of different clinical areas such as depression (Feixas et al., 2014), social phobia (Feixas & Saúl, 2004) and irritable bowel syndrome (Benasayag, Feixas, Mearin, Saúl, & Laso, 2004), to name just a few.

The prevalence of implicative dilemmas in the general population has been found to be significantly lower than in clinical samples (34.0% and 52.4% respectively; Feixas & Saúl, 2004). Similarly, more participants with dilemmatic constructs were found in a clinical sample (73.2%) than in a nonclinical one (66.1%) but this difference was not statistically significant (Feixas, Saúl, & Ávila-Espada, 2009). More specifically, implicative dilemmas were found in more than two thirds of patients suffering from major depression, as diagnosed and classified using the DSM-IV-TR (2000) compared to a third within a control group that was not experiencing depressive symptomatology (Feixas et al., 2014). This also related to symptom severity, with the more severe the depressive symptoms, the larger the presence of implicative dilemmas. These results led researchers to conclude that implicative dilemmas play an important role in depression (Feixas et al., 2014). Also among people diagnosed with social phobia as well as those with irritable bowel syndrome, more implicative dilemmas were found as compared to non-clinical groups (Feixas & Saúl, 2004).

Considering previous research on implicative dilemmas, it appears they are not disorder-specific, but rather they are present in many clinical conditions in higher proportions than in non-clinical samples. Implicative dilemmas have not yet been studied in substance abusers. However, it could be hypothesized, based on previous research, that

this group will also present cognitive conflicts expressed in the RGT as implicative dilemmas and/or dilemmatic constructs.

### **Constructivism and Substance Abuse**

PCT and other constructivist approaches argue for the view of substance abuse as a goal-directed action (e.g., the person seeks a specific drug effect), emphasizing personally and socially constructed meanings (Burrell, 2002; Burrell & Jaffe, 1999). Therefore, substance use is regarded as an issue embedded in the process of construing self and others (Klion & Pfenninger, 1997; Ng, 2002; Thompson, 2016). As the dependency increases and becomes the focus of attention for the substance user, the role of 'consumer' or 'addict' becomes particularized and increasingly used to define one's identity and that of others. At the same time, the use of other roles not involved in substance abuse becomes diminished and increasingly difficult (Ast, 2018; Klion & Pfenninger, 1997; Ng, 2002). Concurrent with a diminished ability of self-construing in other roles, the 'addict' role is both explicitly and implicitly elaborated and extended (Dawes, 1985).

Moreover, given the psychoactive and chemical components of drugs, they could become inherently reinforcing. This occurs because they could provide satisfaction as a form of validation, protecting the individual from invalidation (Klion & Pfenninger, 1997). Positive experiences could receive validation through drug use, especially when experiencing emotions like joy or excitement, as well as alleviate the negative affect associated with the effects of past trauma (Eiroa-Orosa, Giannoni-Pastor, Fidel-Kinori, & Argüello, 2016), or current invalidation resulting in guilt or sadness. Nonetheless, once construing oneself as an addict and realizing the need to change, the process might seem threatening as it would imply self-reconstruction (Klion & Pfenninger, 1997). The more the person is focused on their substance abuse, the more neglected are other possible self-



constructions, forcing them to move back and forth between construct poles such as ‘addict’ or ‘non-addict’. This is a likely cause for confusion and cognitive conflicts, which would also have practical repercussions in adherence to treatment and relapse (McIntosh & McKeganey, 2000). Such confusion could lead to feelings of guilt and remorse, perhaps even triggering them to refuse to acknowledge their substance abuse problem. Kelly (1955) had already argued that feelings of guilt are based on a process of awareness when one’s actions do not conform with one’s core constructs about oneself. Threat, on the other hand, has been defined as the awareness of imminent comprehensive change in one’s core structure. In sum, without appropriate treatment, substance abuse helps with alleviating negative emotions which accompany invalidation. This process might lead to more consumption, which would in turn hinder an individual’s re-construing abilities, perpetuating the cycle of threat, guilt and substance abuse (Brooks et al., 2014; Klion & Pfenninger, 1997).

### **Aims of the study**

The current study aims at describing health professionals under treatment for substance use disorders considering the measures provided by the Repertory Grid, to find possible associations between indicators of cognitive conflict and depression, anxiety and burnout, and to establish comparisons with a community sample.

## **Method**

### **Setting**

In 1998, a new Physician Health Program (PHP) was set up by the Barcelona Physicians’ College. The experience was later replicated in other Spanish regions (Bosch, 1998). In Spain, a unique institution called “Physicians’ College” (“Colegio de Médicos” in Spanish, “Col·legi de Metges” in Catalan) acts as medical association and as regulatory board where every physicians’ college in Spain offers their registered physicians a PHP

outpatient service. The most important inpatient unit for all sick doctors needing hospitalization in Spain, including Catalonia, is in Barcelona.

The Spanish PHP promotes voluntary self-referral for diagnosis and treatment as well as enrolment for preventive interventions. Treatment becomes obligatory only when risk and/or evidence of practice difficulties are identified. Mandatory actions can oblige sick doctors to undergo psychiatric treatment if they suffer from a SUD. This includes proving abstinence once treatment has been completed.

Patients can be self-referred to the PHP or they can be induced or mandated to enter the program (directed referrals). If, after a clinical evaluation, a mental disorder is identified, the sick doctor is offered outpatient or inpatient treatment depending on the severity of each case. Doctors with severe SUDs enter a 1-month rehabilitation program that combines cognitive-behavioral, motivational and psycho-educational interventions.

In Catalonia, the Galatea Foundation and the Catalan Autonomous Government Department of Health have extended the program to other health professionals such as nurses, pharmacists, dentists, veterinarians and psychologists. Health professionals need to be registered at their own regulatory institution and case management strategies are like those applied in the Spanish PHP (PAIME). All these programs belong to the Integral Care Program for Health Professionals within the Barcelona province.

### **Participants**

Thirty health professionals (HPs) hospitalized at the PHP inpatient unit in Barcelona were recruited for this study. Patients had to suffer at least from a SUD, according to DSM-IV-TR criteria, as they received a specific 1-month intensive rehabilitation program for substance abuse. Patients were physicians ( $n = 17$ ), nurses ( $n = 11$ ), one pharmacologist and one psychologist. Most of the patients lived in the Catalan Autonomous Community, with two exceptions that resided somewhere else in Spain.

Both male ( $n = 13$ ) and female ( $n = 17$ ) HPs were considered. With regards to their substance use disorder, their problems were due to alcohol ( $n=15$ ), sedatives ( $n=5$ ), cocaine ( $n=4$ ), cannabis ( $n=1$ ) and opiates ( $n=1$ ). Some of them used more than one drug ( $n = 4$ ).

The mean age for the participants was 48.38 ( $SD = 9.49$ ), ranging from 26 to 63 years.

### **Community sample**

Thirty participants were randomly selected from a community sample database collected for the study of the psychometric properties of the Repertory Grid (Trujillo & Feixas, 2016). To match the characteristics of the clinical sample as much as possible, participants who had completed at least a university degree were included. Additional criteria for inclusion were matching health professionals' age, gender and marital status.

### **Instruments and Measures**

#### **The Repertory Grid Technique**

The repertory grid technique (Kelly, 1955) used for this study was based on an interview that requires the participants to think about the important/significant others in their lives. These are the elements in the grid and are usually parents, partner, siblings and friends, as well as a disliked person. Additional elements were the 'self now' and the 'ideal self'. The elements are considered in consecutive pairs, participants being asked about similarities and differences between the elements of the pair in terms of personality to elicit personal constructs. In the elicitation method used, for each similarity or difference, the participant is required to think of the opposite, thus eliciting a bipolar construct.

As an example, we could take Rosa (fictitious name of one of the participants), who considers her brother and her father as being 'critical' in comparison to herself, who

is 'tolerant'. The resulting construct — 'critical-tolerant' — is used to understand relationships between people, classifying them along this dimension, as well as predicting future interactions with them. This is not, however, the only dimension that Rosa is using to guide her behavior, but it forms part of a network of meaning together with other personal constructs which, according to PCT, are organized hierarchically. The process of looking for constructs stops when saturation is reached, i.e. when the participant cannot think of any other descriptors or find any new meanings between the elements listed.

The participant is then asked to rate all the elements, according to the constructs elicited in the interview, on a 7-point Likert-type scale ranging from 'very' on the left pole until 'very' on the right pole. The matrix created with this method is then analyzed with the help of GRIDCOR 5.0 (Feixas & Cornejo, 2012), a software package specially developed for analyzing repertory grids focusing on cluster analysis of both constructs and elements; calculating the product-moment correlations between elements and between constructs as well as Euclidean distances (straight-line distance between two points in Euclidean space) between them.

#### *Measures reported by the grid analysis*

The repertory grid produces the following parameters (Feixas & Saúl, 2004) that were considered for the present study:

- **Self-Ideal discrepancy.** This parameter is understood as the Euclidian distance between the elements 'self now' and 'ideal self'. Higher distances are interpreted as low self-esteem (Feixas & Cornejo, 2002).
- **Self-Others discrepancy.** This parameter is understood as a Euclidian distance between the 'self now' and an average of the other elements. It has been considered as a marker for the degree of perceived social isolation.

- **Ideal-Others discrepancy.** This parameter is the Euclidian distance between the ‘ideal self’ and the rest of the elements, usually considered as an indication of the degree of positive perception of others (lower scores indicating greater perceived adequacy).
- **Core constructs**, or self-defining constructs are understood as the ones on which the participant rated the “self now” as 1, 2, 6, or 7.
- **Discrepant constructs** are those with a difference of 4 or more points between the ratings of ‘self now’ and the ‘ideal self’, indicating that the person wants to change from one pole to the other of that construct.
- **Congruent constructs** reflect no difference or a very small one (of 1 point) between ratings of the ‘self now’ and the ‘ideal self’, a position the person wishes to maintain, thus indicating happiness with the way he/she is (also contributing to a good self-esteem).
- **Implicative Dilemmas** are also reported in the results of the repertory grid analysis, as a correlation (higher than .34) between a congruent construct and a discrepant construct such that the preferred pole of one is related to the non-preferred pole of the other.
- The number of **Dilemmatic constructs** was also recorded. Dilemmatic constructs occur when a person cannot decide on the best course of action for understanding and predicting his/her experiences, seen as a midpoint rating (4 in the scale used) for the ‘ideal self’ on these constructs.
- **Interpersonal construct differentiation** is gauged in the repertory grid by calculating the percentage of variance accounted for by the first factor (PVAFF) resulting from a principal components method applied to the grid data matrix. It reflects the magnitude of the main dimension of meaning within the network of

constructs used by the client. It measures differentiation, with higher scores indicating lower differentiation (Kovářová & Filip, 2015).

- **Polarization** is defined as the tendency to rate constructs with extreme scores (1 or 7). It is a measure of “black-or-white” thinking (Fransella et al., 2004).
- **Lack of definition** measured by the number of midpoint ratings in the grid. represents the degree to which a person declines to opt for either pole of the constructs when rating the elements, suggesting ambiguity, or perhaps that those constructs do not apply to the elements.

### **The Classification System for Personal Constructs (CSPC).**

The CSPC (Feixas, Geldschläger, & Neimeyer, 2002) consists of 6 areas of meaning, further subdivided into a variable number of categories. The areas are called: (1) moral, (2) emotional, (3) relational, (4) personal, (5) intellectual/operational and (6) values/interests. Categories are more specific and are named after the type of personal construct they represent, e.g.: ‘good – bad’ is a category from the first area, ‘warm – cold’ is a category from the second area, etc. Personal constructs from both samples were categorized using this instrument. This process can be defined as a content analysis and allows a better understanding of the meanings of the personal constructs. However, we must consider that during this procedure some information is lost due to the subjective nature of personal constructs.

### **Distress measures**

- **Depressive symptoms** were assessed using the second version of Beck’s Depression Inventory (BDI-II; Beck et al., 1996), adapted into Spanish by Sanz, Perdigón, & Vázquez (2003). The scale measures the existence and severity of depressive symptoms, from mild to severe depression. The BDI-II shows high internal

consistency ( $\alpha = .91$ ), one-week test-retest reliability ( $r = .93$ ), and positively correlates with other measures of depression (Beck et al., 1996).

- **Anxiety** was tested using the Spanish adaptation (Buela-Casal, Guillén-Riquelme, & Cubero Seisdedos, 2016) of the State-Trait Anxiety Inventory (STAI) developed by Spielberger, Gorsuch, & Lushene (1970). The scale is a self-report measure used to indicate the intensity of feelings of anxiety, distinguishing between state anxiety (a temporary condition experienced in specific situations) and trait anxiety (a general tendency to perceive situations as threatening). The tool has shown reliability, reporting high alpha values, .84-.94 for the state subscale, .9-.91 for the trait subscale (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) with similar parameters for the Spanish version (Buela-Casal & Guillén-Riquelme, 2017).
- **Burnout** was assessed using the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981), Spanish adaptation (Gil-Monte, 2002). The inventory addresses three general scales: emotional exhaustion, the feeling of being overwhelmed and exhausted by one's work; depersonalization, a lack of feeling and an impersonal response towards one's patients; and personal accomplishments, referring to one's achievements in the work place, feelings of competence and success. The MBI has been translated into many languages, having high indices of reliability (Loera, Converso, & Viotti, 2014).

## **Procedure**

This was a naturalistic observational study. Patients were evaluated during a 1-month intensive treatment intervention for their substance abuse problems. Socio-demographic and clinical features were obtained from their electronic medical records. They were diagnosed according to DSM-IV-TR criteria (American Psychiatric Association, 2000).

The repertory grid interviews were conducted after they had completed the first treatment period (15 days of admission). Twenty participants were assessed by a qualified student of the Master on Cognitive Social Therapy of the University of Barcelona as part of their internship, and the rest were assessed by the second author of this work.

All patients included in the study were previously evaluated by their psychiatrist to be in an appropriate condition to undergo this psychological assessment. None of the patients referred by their psychiatrist refused participation.

### **Ethical considerations**

This study followed Helsinki Ethical Declaration principles (General Assembly of the World Medical Association, 2014). The study was approved by the University of Barcelona Institutional Review Board. All patients gave written informed consent to participate in the study. Participants did not receive any economic compensation for their participation in the study.

### **Statistical analyses**

The repertory grid data were analyzed using the GRIDCOR 5.0 version (Feixas & Cornejo, 2012). We compared health professionals with and without implicative dilemmas using Chi squared and Mann-Whitney's U tests. The same tests were used to compare the community with the health professionals' sample. Forward conditional logistic regressions were used to select the most predictive outcomes of group membership in both cases. Effect sizes were calculated through odds ratios and Cohen's *d*. All analyses were carried out using jamovi and R for Windows (R Core Team, 2019).

### **Content analysis**

The content analysis of the constructs from both samples was performed using an algorithm written in Python and derived from the GRIDCOR 6.0 application (Garcia-Gutierrez & Feixas, 2018). This algorithm was able to automatically categorize constructs



using a database which contained all subjects' constructs and elements. Constructs that could not be classified using this method were categorized manually.

## Results

### Health professionals sample analyses

Participants with dilemmatic constructs ( $n = 13$ ) as well as with implicative dilemmas ( $n = 16$ ) were found in the sample. Most of them presented more than one implicative dilemma (93.7%;  $n = 15$ ) and more than a quarter ( $n = 4$ ) presented more than 10 implicative dilemmas. The maximum of implicative dilemmas was found to be 29 for one patient.

Table 1 shows a comparison of outcomes between the subsample with implicative dilemmas and those with absence of implicative dilemmas. Statistically significant differences were found just for trait anxiety and burnout. Forward conditional logistic regression results only yielded statistically significant results for burnout symptoms ( $Wald = 4.116, p = .042, Nagelkerke's R^2 = .293$ ).

### Comparison with the community sample

With regards to socio-demographic factors, as would be expected from matched samples, no statistically significant differences were found between samples. Female gender was present in about half of both samples (56.7%), and slightly less than a half lived with a partner (40%). Age ( $48.72 \pm 1.25$ ) was also found to be comparable in community and health professionals' samples. Higher rates of implicative dilemmas (medical professionals 64%, mean=3.50; community 36%, mean=1.17;  $\chi^2=3.360, p=.067; t=1.748, p=.086$ ) and dilemmatic constructs (medical professionals mean=1.10, community mean=1.03;  $t=.163, p=.871$ ) were found for medical professionals, but the differences were not statistically significant.

Table 1

*Distress measures in the professionals' sample (comparison between subsamples with and without implicative dilemmas)*

Measure	Present ID			Absent ID			<i>z</i>	<i>p</i>	<i>d</i>
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>			
BDI-II admission	10	20.8	10	14	15.93	7.14	1.32	.19	.58
BDI-II at 15 days	9	9.89	6.58	12	7.08	4.99	.96	.34	.49
BDI-II before discharge	13	8.08	6.29	12	5	4.24	1.26	.21	.56
STAI-S admission	10	49.1	7.79	14	46.71	10.09	.79	.43	.25
STAI-S at 15 days	9	41.11	12.26	12	38.58	9.88	.81	.41	.23
STAI-S before discharge	13	36.85	8.5	12	37	10.21	.38	.70	-.016
STAI-T	10	56.2	7.54	14	47.57	10.34	1.93	.05	.93
MBI	10	52.1	16.02	13	36.15	15.03	2.17	.03	1.03

Table 2 shows comparisons of the main RGT parameters. Statistically significant differences, with higher levels for the clinical sample, were found for the percentage of variance accounted by the first factor (PVAFF), and the Euclidian distances between 'self now' and 'ideal self', 'self now' and others, 'ideal self' and 'others' and the level of polarization.

The results of the forward conditional logistic regression can be seen in Table 3. Membership to the clinical sample was predicted, above all, by a higher distance between 'self now' and 'ideal self' and higher PVAFF values.

Table 2

*Repertory Grid parameters by group*

	General population		Medical professionals		<i>z</i>	<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Implicative dilemmas	1.17	2.44	3.5	6.89	1.83	.067	.45
Dilemmatic constructs	1.03	1.3	1.1	1.83	.749	.45	.04
PVAFF	43.58	12.78	52.02	11.05	2.34	.019	.70
Ideal Self – Actual Self	.21	.09	.38	.13	4.82	<.0001	1.5
Actual Self - Others	.21	.06	.25	.07	2.42	.016	.67
Ideal Self - Others	.21	.05	.27	.07	3.89	<.0001	1.13
Polarization	28.74	18.95	33.07	11.52	1.97	.05	.28
Lack of Definition	7.52	6.75	8.21	6.75	.84	.40	.17

Table 3  
*Logistic regression carried using group membership as dependent variable*

	B	Wald	Significance	OR	95%CI	
					Lower	Upper
<b>Model 1</b>						
Ideal – self distance	-13.886	15.070	<.0001	.0001	.0001	.001
<b>Model 2</b>						
Ideal – self distance	-16.742	14.730	<.0001	.00001	.00001	.0001
PVAFF	-.100	7.405	.007	.905	.842	.973

*Note.* Nagelkerke R Square: Model 1=.502; Model 2:.633. PVAFF: Percentage of variance accounted by the first factor.

### **Content analysis**

Results of the content analysis, including a comparison with the community sample, can be seen in Table 4. Some constructs could not be classified using the CSPC because they were unintelligible, so there was some missing data: 7 constructs for the clinical sample (1.45%) and 18 for the community sample (2.92%). 1074 constructs in total were categorized (clinical sample: 476, and community sample: 598).

When comparing the distributions of the clinical and community samples, Chi square tests showed statistically significant results, both for areas ( $\chi^2 (5, n = 1074) = 12.75; p = .026; Cramer's V = .11$ ) and for categories ( $\chi^2 (41, n = 1074) = 68.04; p = .005; Cramer's V = .25$ ). Table 4 shows the frequency distribution of the areas of the constructs and the standardized residuals from the Chi square test. As we can see, differences occur only in the values/interests' area. Considering the constructs categories, residuals ( $>1.96$ ) showed that the following areas were overrepresented in the clinical sample: 'good – bad', 'loyal – disloyal' and 'balanced – unbalanced'; and in the community sample: 'specific emotions', 'dependent – independent', 'specific skills' and 'specific values and interests'.

### **Discussion**

The findings of the study support previous research in terms of the presence of cognitive conflicts in persons with different types of distress. Several studies in many clinical populations have found a higher prevalence of cognitive conflicts compared to community samples (Feixas & Saúl, 2004). In the current study, similar results were found: two thirds of the health professionals presented with at least one implicative dilemma versus one third in the community sample. As presented earlier, implicative dilemmas could provide a possible explanation for a lack of change in the patients' behavior even after therapy, as well as suggest a considerable amount of distress (Feixas

& Saúl, 2004). This suggests that perhaps substance abusers also experience great distress in their attempt to change some aspects of themselves whilst maintaining more important aspects intact (Feixas & Saúl, 2004), with consequent resistance to treatment. Dilemmatic constructs have also been found in larger amounts in clinical samples, although not to a substantial degree across all populations (Feixas et al., 2009). Health professionals who are also substance users showed a considerable number of dilemmatic constructs, also thought of as markers of cognitive conflict, being unable to provide a clear course of action (Feixas et al., 2009). The distress felt by substance abusers was also reflected in high scores on the depression, anxiety and burnout measures.

Table 4

*Comparison between the clinical and community sample attending the distributions of the constructs' content areas*

	<i>Moral</i>	<i>Emotional</i>	<i>Relational</i>	<i>Personal</i>	<i>Intellectual</i>	<i>Values</i>
<b>Clinical sample</b>						
<i>f</i>	111	128	105	107	21	4
%	23.32	26.89	22.06	22.48	4.41	.84
Std. Res.	1.36	.42	-.52	.03	.05	-3.35
<b>Community sample</b>						
<i>f</i>	119	154	140	134	26	25
%	19.90	25.75	23.41	22.41	4.35	4.18
Std. Res.	-1.36	-.42	.52	-.03	-.05	3.35

There were no differences between the patients with implicative dilemmas and those without in terms of depression or state anxiety scores. Statistically significant differences were found, however, in trait anxiety and burnout between those with implicative dilemmas and those without. More specifically, patients with implicative dilemmas scored higher on both measures.

Trait anxiety refers to the general predisposition of people to perceive internal or external stimuli as threatening (Spielberger et al., 1983). On the other hand, burnout refers specifically to work related stress, emotional exhaustion, feeling overwhelmed and exhausted by work (Maslach & Jackson, 1981). Therefore, while burnout measures a specific contextual stress-response, trait anxiety refers to a generalized pattern of responsiveness. However, according to our results, it could be hypothesized that health professionals whose construct system is conflicted have more baseline anxiety, experience more difficulties in coping and resolving work-related tensions, and, finally, develop burnout symptoms.

Low self-esteem has also been considered to be a psychological risk factor for developing substance abuse in health professionals (Bissell, 1987). A high score on this parameter predicted belonging to our clinical sample versus a randomly matched community sample. This finding is concordant with previous research employing psychometric measures of self-esteem (Alavi, 2011). With respect to the distance between actual self and others, the mean was higher for health professionals suggesting that these patients might show signs of perceived social isolation.

Comparisons with a community sample showed higher rates of implicative dilemmas in the health professionals' group, although just statistical tendencies were found. This may be due to the size of our sample. However, with regards to PVAFF, health professionals were more likely to use only one dimension of meaning to interpret

events. This implies showing more rigidity than the general population, as well as, possibly, experiencing more distress associated with low self-esteem, perceived social isolation and perceived adequacy in others (Feixas et al., 2009). Additionally, content analysis of the constructs revealed an overrepresentation of constructs referring to values and interests (such as ‘good – bad’, ‘loyal – disloyal’ and ‘balanced – unbalanced’) in the clinical sample. This could be associated with a profile of very self-demanding people who attach great importance to values traditionally associated with medical practice (Coombs, 1996).

The measures obtained from the repertory grid analyses for health professionals, reflect the construing processes of patients in treatment. As the interviews were conducted 15 days after their admission to their recovery program, the findings could not be generalized to individuals just starting treatment interventions or to those refusing treatment. Considering that the construct system is dynamic and subject to change (Kelly, 1955), the measures presented may reflect the ongoing change in their construct system during their treatment process.

Limitations of this study are related to statistical power due to our small sample size and the problems associated with multiple comparisons. We also should acknowledge that the repertory grids were collected without any restriction in the number of constructs and that might have an influence on the percentage of variance accounted for by the first factor. Therefore, conclusions derived from this parameter should be considered cautiously. Additionally, our findings might only be interpreted in the context of the ongoing change in the construct systems of health professionals who are in treatment for their substance abuse problems and might not be generalizable to other such professionals.



Overall, the findings of this study support previous research and theory with regards to the psychological factors and identity problems associated with the development of substance abuse in health professionals. Using the RGT to assess treatment outcomes would be a subsequent step that may help follow the changes in conflicts and identity constructions during the treatment process.

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