

Original Article

Emotional Intelligence and Addictions: A Systematic Review

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Since the millennium, an expanding number of research articles have examined the relationship between emotional intelligence (EI) and physical and mental health. The relationship between EI and addictive disorders has, however, remained relatively well-hidden. We therefore systematically reviewed and critically evaluated the literature on this relationship. We identified 51 articles on the topic of which 36 fulfilled our inclusion criteria. Results indicate that a lower level of EI is associated with more intensive smoking, alcohol use, and illicit drug use and two components of EI play a key role in addictions: “decoding and differentiation of emotions” and “regulation of emotions.”

Keywords emotional intelligence; substance use; chemical addictions; behavioral addictions; systematic review; self-medication; self-regulation

Introduction

During the last two decades, a number of scientific articles and books have been published on the topic of emotional intelligence (EI). Though the concept of emotional intelligence originated somewhat earlier, it only became well-known after the book by Goleman (1995) became popular. In fact, the first definition of EI, in the sense to which we refer, was given by Salovey and Mayer (1990, p. 189): “*Emotional intelligence (. . .) involves the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions.*” This early definition is today, however, just one of many conceptualizations. As a result of the term’s rapidly gaining popularity, several definitions, theories, and measures for this construct have been worked out. Parallel to this popularization, publications questioning the validity of the concept have also appeared. Some authors suggest that emotional intelligence, or at least some approaches to and/or measures of it, are simply the reconceptualization of other former

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constructs, such as, Psychological Well-Being (Ryff, 1989), Satisfaction with Life (Diener, 1984), or the positive poles of the Big-5 personality trait dimensions (Brackett & Mayer, 2003; McCrae, 2000). Behind all these suggestions there is one common perspective, namely that people with a high level of EI must have more positive traits, must be happier, and must be more successful in life than others (Chamorro-Premuzic, Bennett, & Furnham, 2007; Martinez-Pons, 1997). In fact, several studies have pointed out that higher level of EI correlates with more adaptive ways of coping (Salovey, Bedell, Detweiler, & Mayer, 1999; Salovey, Stroud, Woolery, & Epel, 2002), contributes to the achievement of better academic results (Parker, Summerfeldt, Hogan, & Majeski, 2004; van der Zee, Thijs, & Schakel, 2002), is associated with better interpersonal relations (Mayer, Caruso, & Salovey, 1999), and is a protective factor in both physical and mental health (Austin, Saklofske, & Egan, 2005; Tsaousis & Nikolaou, 2005).

Though, a large amount of research has been carried out since the millennium to verify the relationship between EI and physical and mental health, the relationship between EI and addictive disorders has remained relatively unknown. A recent study by Schutte and her colleagues, aiming to reveal the relationship between EI and health, presented a meta-analysis of 35 studies published before 2007 (Schutte, Malouff, Thorsteinsson, Bhullar, & Rooke, 2007). Of those 35 studies only 6 deal with the issue of psychoactive substance use. An area which has received rather more attention—primarily regarding alcohol use—is the topic of alexithymia, but we can see that, even if the concept of EI involves dimensions of emotional regulation and emotional expression as they have a basic role in the formation and preservation of addictions, only a few studies directly reveal the relationship between EI and addictive disorders. As regards those dimensions, apart from the clinical observations of Khantzian (1985) and Wurmser (1995), we find studies on alexithymia (Taylor, Bagby, & Parker, 1997) or the high comorbidity of anxiety and mood disorders among patients with addictive disorders (Homer et al., 2008; Myrick & Brady, 2003; Regier et al., 1990). Before we review and summarize the literature on the relationship between EI and addictions, however, it is worth looking at the clinical observations and empirical findings, which explore the features of emotional functioning in addictive disorders and were published before the birth of the EI construct.

Addictions and Emotions

Although the construct of EI is no older than two decades, research on the psychology of emotions has a rich history. The issue of emotions has been a dominant component of theories and treatments of mental disorders since the end of the 19th century. Most of the early publications, however, because of their psychodynamic approach, were based on clinical observations and case studies and lacked empirical data. In the following, we review the clinical observations and empirical studies of this early period, which can be regarded as the direct antecedents of the examination of the relationship between addictions and EI.

Early Clinical Observations

Even Freud had been considering the role of emotions in the development of psychotropic substance dependence. He suggested that an attempt to turn away from a frightening environment, pain, or disappointment can be found in the background of psychoactive substance abuse. *“Life, as we find it, is too hard for us; it brings us too many pains, disappointments and impossible tasks. In order to bear it we cannot dispense with palliative measures. (. . .) There are perhaps three such measures: powerful deflections, which cause*

us to make light of our misery; substitutive satisfactions, which diminish it; and intoxicating substances, which make us insensitive to it" (Freud, 1930, p. 75). Rado (1933) was the first to describe substance use as a way of coping with excessively difficult states of emotions. Glover (1932) claims that substance use in fact develops in order to control sadistic and/or homoerotic desires or to prevent psychotic regression. Others subsequently interpret the phenomena as a maladaptive way of fighting against stress, anxiety, and depression (Chein, Gerard, Lee, & Rosenfeld, 1964; Fenichel, 1945; Hartmann, 1969). Krystal and Raskin (1970) emphasize the undifferentiated and archaic, somatically manifested, emotions of persons suffering from addictive disorders. These emotions are fixed at this level owing to their early traumatic nature. Later, McDougall (1984) also highlighted the importance of overflowing emotions in the case of people with addictive disorders. He identified substance use as a compulsive way of canalizing these overflowing emotions. Conclusively, we can see that in all of these psychoanalytically oriented theories, substance use is present as an *instrument to regulate emotions*.

This approach is elaborated unequivocally in the theories of Leon Wurmser and Edward J. Khantzian. According to Wurmser (1974), people with addictive disorders are unable to regulate their undifferentiated feelings, impulses, and pervasive internal stress, and so they turn to psychoactive substances. Their substance use can thus be recognized as an attempt at "self-treatment." The self-medication hypothesis of Khantzian (1985) also highlights emotion regulation in the background of addictions. He asserts that drug use in fact emerges as the common result of psychopharmacological functioning and overwhelmingly painful emotions. Like Wurmser, Khantzian also points out that the choice of substance is specific to the person's self-regulation and affect-regulation problems, as well as his/her personality dysfunctions (Khantzian, 1991). While people characterized by aggressive tendencies, overflowing emotions, and immature stress-management capacities tend to choose opiates, those described by suppressed aggression, feelings of emptiness, a tendency to depression, self-evaluation problems, and difficulties with the expression of emotions prefer stimulants.

Apparently, clinical observations highlight mainly those dimensions in the background of psychoactive substance use—primarily the presence of undifferentiated, overflowing, dominantly negative and painful feelings, and difficulties in emotional expression and emotional regulation—which appear to be basic components of the later EI construct. For instance, according to Mayer and Salovey (1997), the main components of EI are: (1) the perception, appraisal, and expression of emotions; (2) the emotional facilitation of thinking; (3) understanding and analyzing emotions, and employing emotional knowledge; and (4) the regulation of emotions.

Empirical Findings

Besides clinical observations, several branches of empirical research also associated substance use with emotion regulation problems. Comorbidity studies identify mood disorders, characterized by the disorganization of emotion regulation—mainly major depression (Brooner, King, Kidorf, Schmidt, & Bigelow, 1997; Christenson et al., 1994; Halmi et al., 1991; McCormick, Russo, Ramirez, & Taber, 1984; Merikangas & Gelernter, 1990) and bipolar disorders (Maremmanni et al., 2007; Vornik & Brown, 2007)—as the most frequently diagnosed problems among addictive patients. From the spectrum of anxiety disorders, in which emotion regulation problems are also self-evident, obsessive-compulsive disorder (OCD) needs to be underlined. Obsessive-compulsive disorder shows high correlation not only with the use of psychoactive substances (Regier et al., 1990) but with behavioral addictions also (Frost, Krause, & Steketee, 1996; Grant, Mancebo, Pinto, Eisen, & Rasmussen,

2006; Holderness, Brooks-Gunn, & Warren, 1994). Hollander and Wong (1995) even suggest behavioral addictions come under the umbrella of the so-called “obsessive-compulsive spectrum” concept.

The most important empirical findings regarding our topic may be those studies, which attempted to explore the relationship between addictions and alexithymia. The concept of alexithymia was created by Ruesch (1948) but the definition of Nemiah and Sifneos is more widely known (Nemiah & Sifneos, 1970; Sifneos, 1967). The four main characteristics of alexithymia are: (1) difficulty identifying feelings and distinguishing between emotions and corresponding bodily sensations; (2) difficulty describing feelings to others; (3) constricted imaginal life and fantasies; and (4) externally oriented cognitive style (Nemiah, Freyberger, & Sifneos, 1976). The relationship between alexithymia and emotional consciousness or emotional intelligence was confirmed by several studies (Austin et al., 2005; Lane et al., 1996; Parker, Taylor, & Bagby, 2001). These studies pointed out that a low level of EI correlates with a high level of alexithymia. These results are hardly surprising, given that the ability to identify and express emotions is an important component of EI. Besides clinical observations (Krystal, 1995), empirical studies have also shown that people with addictive disorders—mainly alcoholic patients or those diagnosed with eating disorders—have difficulties with the verbalization and expression of their feelings, so in their case the problem of alexithymia is more frequent than in the normal population (Handelsman et al., 2000; Speranza et al., 2005; Troisi, Pasini, Saracco, & Spalletta, 1998). These phenomena can be best examined, however, with the help of the EI concept, which gives an up-to-date common frame for research in the area. At the same time, a systematic review of studies concerning the relationship between EI and addictions both chemical and behavioral has not so far been carried out.

Objectives

The primary objective of this paper was to summarize our knowledge on the relationship between EI and addiction problems. We therefore systematically reviewed and critically evaluated the literature on this relationship from the birth of the EI concept in 1990 (Salovey & Mayer, 1990) to May 31, 2009. Our research question also included analysis of whether recent empirical investigations are in accordance with previous clinical observations regarding the relationship of emotional dysregulation and addictive disorders. A third goal was to identify gaps in the research and formulate questions that could drive future endeavor in this field.

Method of Data Collection

The guidelines of the Cochrane Collaboration (Cochrane Non-Randomised Studies Methods Group, 2008) and the proposals of Stroup and colleagues (2000) were followed in the design, performance, and reporting of this systematic review. A recent editorial on the taxonomy of literature reviews (Cooper, 2003) also served as a guideline for our work.

Types of Studies

All studies were considered for inclusion which provided empirical data on the relationship between EI and any type of chemical or behavioral addiction and had been published in English in peer-reviewed journals or scientific books. We included both studies that examine the whole EI construct and those which consider only one aspect of EI.

Search Strategy

For the review of the literature we searched the following databases: PsycINFO, MEDLINE, PubMed, Science Direct, Web of Science, and EBSCO. The search was restricted to the period between the coining of the EI concept in 1990 and May 31, 2009.

The electronic search was executed for two groups of keyword combinations. For EI, we used the keywords *emotional intelligence* and *emotional competence* and for addictions we applied the following keywords: *addiction, substance use, drug, alcohol, nicotine, smoking, behavioral addiction, eating disorder, bulimia, anorexia, internet, gambling, buying, hoarding, obsessive-compulsive, sex*.

The electronic search was supplemented by a manual search. This meant that we had reviewed the reference list of each study found and thus we were able to complement our database with all those further studies that had not been shown up by the electronic search.

Exclusions

During the electronic search, as a result of the combination of the two keyword clusters, 43 studies were identified and the overview of their references resulted in 8 further studies. The full list of studies was refined according to the following four criteria.

1. We excluded from the evaluation those review studies and book chapters that did not contain original empirical results unavailable from other sources. This ruled out six studies (Carmody, Vieten, & Astin, 2007; Elias, Arnold, & Hussey, 2003; Killinger, 2006; Lane, 2007; Parker, 2005; Treasure, Schmidt, & Tchanturia, 2005).
2. As we restricted our analysis to English language publications, another four studies had to be excluded (Di Cosmo, Gremigni, Bitti, & Enrico, 2006; Jouanne, Edel, & Carton, 2005; Latorre & Montanes, 2004; Szczepanska, Baran, & Mikolaszek-Boba, 2004).
3. One study was excluded from further analysis because it examined not the direct relationship between EI and substance use but the relationship between EI and the substance use of the person's parents (Silveri, Tzilos, Pimentel, & Yurgelun-Todd, 2004).
4. We also excluded from the analysis the four doctoral dissertations identified (Dulko, 2008; Fortino, 2003; Grisham, 2006; Trinidad, 2003). The results of two of them, however, have been published in peer-reviewed journals, so the latter were in fact included in our analysis (Grisham, Steketee, & Frost, 2007; Trinidad & Johnson, 2002; Trinidad, Unger, Chou, Azen, & Johnson, 2004a; Trinidad, Unger, Chou, & Johnson, 2004b, 2005).

Analysis and Interpretation

As shown in Table 1, 36 publications fulfilled the criteria for inclusion altogether.

Date and Place of the Studies

It shows the novelty of the issue that all studies, except three, took place after 2000. Furthermore, more than every second paper was published in or after 2005. Every fourth study describes research carried out in the United States, while half of the studies took place in Europe. Besides a Thai and an Iranian work, there were three studies that took place in Canada and two in Australia. In two further papers multiple nationalities were examined together.

Table 1

Research findings published between 1990 and May, 2009, investigating the relationship between EI and various addiction problems (sorted by publication date)

Study	Country	Type of disorder or substance use	Sample characteristics	Sample size	Sampling method	Assessment of EI	Statistical analysis
1. Oscar-Berman, Hancock, Mildworf, Hutner, and Weber, 1990	USA	Alcohol use	Alcohol patients with and without Korsakoff's syndrome	10 male alcoholic Korsakoff patients, 31 male non-Korsakoff alcoholics, and 27 male nonalcoholic controls	Convenience, matched control	Pictures ^a	Correlation, ANOVA, multiple regression analysis
2. Schutte et al., 1998	USA	Psychoactive substance use	Individuals in a substance abuse treatment program	No data	No data	AES	No data
3. Philippot et al., 1999	Belgium	Alcohol use	Inpatients diagnosed with alcohol dependence	27 inpatients and 25 nonpatient controls	Convenience, matched control	EFE	MANOVA
4. Kornreich et al., 2001a	Belgium	Alcohol use	Inpatients diagnosed with alcohol dependence or obsessive-compulsive disorder (OCD)	22 inpatients diagnosed with alcohol dependence, 22 outpatients suffering from OCD, 22 nonpatient controls	Convenience, matched control	EFE	MANOVA

5.	Kornreich et al., 2001b	Belgium	Alcohol use	Inpatients diagnosed with alcohol dependence: recently detoxified alcoholics and abstinent alcoholics	25 recently detoxified alcoholics, 25 abstinent alcoholics, and 25 nonpatient controls	Convenience, matched control	EFE	MANOVA
6.	Kornreich et al., 2002	Belgium	Alcohol use	Inpatients diagnosed with alcohol dependence	30 inpatients diagnosed with alcohol dependence and 30 nonpatient controls	Convenience, matched control	EFE	MANOVA, ANCOVA
7.	Frigerio, Burt, Montagne, Murray, and Perrett, 2002	Italy	Alcohol use	Inpatients diagnosed with alcohol dependence	25 inpatients diagnosed with alcohol dependence and 23 nonpatient controls	Convenience + systematic, matched control	Pictures ^b	ANOVA
8.	Trinidad and Johnson, 2002	USA	Smoking, alcohol use	Adolescents	205	Convenience	AMEIS	Correlation, multiple regression analysis

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Table 1

Research findings published between 1990 and May, 2009, investigating the relationship between EI and various addiction problems (sorted by publication date) (*Continued*)

Study	Country	Type of disorder or substance use	Sample characteristics	Sample size	Sampling method	Assessment of EI	Statistical analysis
9. Townshend & Duka, 2003	United Kingdom	Alcohol use	Inpatients diagnosed with alcohol dependence	14 inpatients diagnosed with alcohol dependence and 14 nonpatient controls	Convenience, matched control	Pictures ^c	Correlation, ANOVA
10. Brackett and Mayer, 2003	USA	Smoking, alcohol use, illegal substance use	Non-clinical sample of adults	207 college students	Convenience	MSCEIT, EQ-i, AES	Correlation, multiple regression analysis
11. Kornreich et al., 2003	Belgium	Alcohol use, opiate use (heroin, methadone)	Inpatients diagnosed with alcohol dependence and/or diagnosed with actual or past opiate dependence	150 patients in five groups of 30 subjects according to their actual or past opiate dependence and alcohol dependence	Convenience, matched control	EFE	MANOVA
12. Riley and Schutte, 2003	Australia	Alcohol use, illegal substance use	Nonclinical sample of adults	141 participants from community settings and university campus	Convenience	AES	Correlation, mediation analysis
13. Engelberg and Sjöberg, 2004	Sweden	Internet addiction	Nonclinical sample of adults	41 university students	Convenience	MSCEIT	Correlation, regression analysis

14.	Brackett, Mayer, and Warner, 2004	USA	Smoking, alcohol use, illegal substance use	Nonclinical sample of adults	330 university students	Convenience	MSCEIT	Correlation
15.	Trinidad, Unger, Chou, Azen, and Johnson, 2004a	USA	Smoking	Adolescents	416	Convenience	AMEIS	Linear regression analysis, logistic regression analysis
16.	Trinidad Unger, Chou, and Johnson, 2004b	USA	Smoking	Adolescents	416	Convenience	AMEIS	Linear regression analysis, logistic regression analysis
17.	Foisy et al., 2005	Belgium	Alcohol use, opiate use	Inpatients diagnosed with opiate dependence and/or alcohol dependence	33 participants with an alcohol and opiate dependence, and 32 participants with opiate dependence without alcohol dependence	Convenience, matched groups	EFE	ANOVA
18.	Rozin, Taylor, Ross, Bennett, and Hejmadi, 2005	USA	Obsessive-compulsive symptoms	Nonclinical sample of adults	166 university students	Convenience	Pictures ^d and video clips ^e	Correlation, T-test

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Table 1

Research findings published between 1990 and May, 2009, investigating the relationship between EI and various addiction problems (sorted by publication date) (*Continued*)

Study	Country	Type of disorder or substance use	Sample characteristics	Sample size	Sampling method	Assessment of EI	Statistical analysis
19. Austin et al., 2005	Canada and Scotland	Alcohol use	Nonclinical sample of adults	500 Canadian undergraduate students, 180 Scottish volunteers, and 64 Scottish undergraduate students	Convenience	EIS-41, EQ-i:S	Correlation, regression analysis
20. Lin and Chuang, 2005	Taiwan	Impulsive buying	Adolescents	574	Convenience	AES	T-test
21. Trinidad et al., 2005	USA	Smoking	Adolescents	416	Convenience	AMEIS	Regression analysis
22. Tsaoasis and Nikolaou, 2005	Greece	Smoking, alcohol	Nonclinical sample of adults	1. study: 191 university students and 174 employees from various organizations 2. study: 212 employees from a mental health institution	Convenience	TEIQ	Correlation, regression analysis
23. Kaur, Schutte, and Thorsteinson, 2006	Australia	Problem gambling	Nonclinical sample of adults	117 participants from various workplaces, educational settings, public venues, and recreational settings with gambling opportunities	Convenience	AES	Correlation, regression analysis

24.	Limonero, Tomas-Sabado, and Fernandez-Castro, 2006	Spain	Smoking, cannabis use	Nonclinical sample of adults	133 university students	Convenience	TMMS	T-test, multiple regression analysis
25.	Matyassy, Kelemen, Sarkozi, Janka, and Keri, 2006	Hungary	Alcohol use	Inpatients diagnosed with alcohol dependence	30 inpatients diagnosed with alcohol dependence and 30 nonpatient controls	Convenience, matched control	BCET	T-test
26.	Reay, Hamilton, Kennedy, and Scholey, 2006	United Kingdom	MDMA (ecstasy) use	Polydrug ecstasy users and polydrug nonecstasy users	15 polydrug ecstasy users and 15 polydrug nonecstasy users	Convenience	AES	Correlation, ANOVA, ANCOVA
27.	Schutte et al., 2007	International	Smoking, alcohol use, illegal substance use	Exhaustive sample of studies on the relationship between EI and health	Total of 7898 participants from 35 studies (meta-analysis)	Exhaustive search of studies	EQ-i, AES, TMMS, MEIS, MSCEIT	Moderator analysis
28.	Saklofske, Austin, Galloway, and Davidson, 2007	Canada	Smoking, alcohol use	Non-clinical sample of adults	364 university students	Convenience	AES	Structural equation model

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Table 1
Research findings published between 1990 and May, 2009, investigating the relationship between EI and various addiction problems (sorted by publication date) (*Continued*)

Study	Country	Type of disorder or substance use	Sample characteristics	Sample size	Sampling method	Assessment of EI	Statistical analysis
29. Foisy et al., 2007a	Belgium	Alcohol use	Inpatients diagnosed with alcohol dependence	49 alcohol patients of whom 22 finished the treatment and 27 dropped out, and 22 nonclinical controls	Convenience, matched control	EFE	ANOVA
30. Foisy et al., 2007b	Belgium	Alcohol use	Inpatients diagnosed with alcohol dependence	25 inpatients diagnosed with alcohol dependence and 26 nonclinical controls	Convenience, matched control	EFE	MANOVA
31. Markey and Vander Wal, 2007	USA	Bulimia nervosa	Nonclinical sample of adults	154 university students	Convenience	EQ-i	Regression analysis
32. Grisham, Steketee, and Frost, 2007	No data	Compulsive hoarding	Inpatients diagnosed with anxiety and/or mood disorder with or without compulsive hoarding	30 compulsive hoarders diagnosed with anxiety and/or mood disorder, 30 patients diagnosed with anxiety and/or mood disorder alone, 30 nonclinical controls	Convenience, matched control	AES	Correlation, ANOVA, multiple regression analysis

33.	Parker, Taylor, Eastabrook, Schell, and Wood, 2008	Canada	Problem gambling, internet addiction	Adolescents	667	Convenience	EQ-i:YV	Correlation, path analysis
34.	Besharat, 2008	Iran	Psychoactive substance use	Inpatients diagnosed with substance use disorder	321	Convenience	EIS-41	Correlation
35.	Ghee and Johnson, 2008	USA	Alcohol use	Nonclinical sample of adults	242 university students	Convenience	AES	Correlation, multiple hierarchical regression analysis
36.	Craig, Fisk, Montgomery, and Murphy, 2008	United Kingdom	MDMA (ecstasy) use, cannabis use	Polydrug ecstasy users, cannabis-only users	78 polydrug ecstasy users, 38 cannabis-only users, 34 nonusers of illicit drugs	Convenience	AES	Correlation, ANOVA, hierarchical regression analysis

AES = Assessing Emotions Scale (Schutte et al., 1998), AMEIS = Multifactor Emotional Intelligence Scale, Adolescent Version (Mayer, Salovey, & Caruso, 1997), BCET = Baron-Cohen Eyes Test (Baron-Cohen, Wheelwright, Hill, Raste, & Plumb, 2001), EFE = Emotional Facial Expression Test (Hess & Blair, 1995), EIS-41 = Emotional Intelligence Scale-41 (Austin, Saklofske, Huang, & McKenney, 2004), EQ-i = Bar-On Emotional Quotient Inventory (Bar-On, 1997), EQ-i:S = Bar-On Emotional Quotient Inventory: Short (Bar-On, 2002), EQ-i:YV = Bar-On Emotional Quotient Inventory Youth Version (Bar-On & Parker, 2000), MEIS = Multifactor Emotional Intelligence Scale (Mayer et al., 1999), MSCEIT = Mayer-Salovey-Caruso Emotional Intelligence Test (Mayer, Salovey, & Caruso, 2002), TEIQ = Traits Emotional Intelligence Questionnaire (Tsaousis, 2003), and TMMS = Trait Meta-Mood Scale (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995).

^aEkman and Friesen (1976).

^bBenson and Perrett (1991), Rowland and Perrett (1995).

^cEkman and Friesen (1976), Sprengelmeyer et al. (1997).

^dMatsumoto and Ekman (1988), Rozin, Lowery, and Ebert (1994), Rozin, Lowery, Imada, and Haidt (1999), Calder, Young, Perrett, Etcoff, and Rowland (1996).

^eHejmadi (2003), Hejmadi, Davidson, and Rozin, (2000), Hejmadi, Rozin, and Davidson (2003).

Table 2
Distribution of addiction problems in the reviewed studies

Type of disorder or substance used	Number of studies	
	Clinical sample	Nonclinical sample
Smoking ^a	0	3
Alcohol	10	2
Illegal substances	3	1
Smoking & alcohol	0	3
Smoking & alcohol & illegal substances	0	2
Smoking & illegal substances	0	1
Alcohol & illegal substances	2	1
Behavioral addictions	1	6
Total	16	19

Note: The meta-analysis of Schutte et al. (2007) is not included in the Table.

^aSmoking refers to tobacco smoking.

Distribution According to Specific Addictions

The majority of studies identified examine the relationship between psychoactive substance use and EI. A total of seven researches deal with behavioral addictions, two with internet addictions, two with problem gambling (one study reports both internet addiction and problem gambling), one with bulimia nervosa, one with compulsive hoarding, one with OCD, and one with impulsive buying. In respect of psychoactive substance use, one-third of the studies involve more than one type of substance user population. More than two-thirds of the chemical addiction researches (20 studies) cover the topic of alcohol use, while 9 studies deal with smoking, and 10 with illicit substance use (Table 2).

Assessment of Methodology

Sample Characteristics and Sampling Method. The rather exploratory nature of the issue is well illustrated by the fact that all the studies applied convenience sampling methods except for one case of systematic sampling and the meta-analysis of Schutte and colleagues (2007) (see Table 1). Studies working with clinical samples, however, in most cases laid emphasis on controlling for gender and age differences between groups by applying matched control groups.

In 29 studies (80%) the participants were adults while only 6 studies involved adolescents. In the review by Schutte and colleagues (2007) studies with samples of both adults and adolescents were included. Among the studies we have identified, there are more normal than clinical samples (16 clinical and 19 nonclinical samples). The majority of studies with clinical samples deal with alcohol use (12). Only a small proportion of clinical sample studies (6) investigated illegal substance users or people with a diagnosis of some kind of behavioral addiction.

Measures. Since the construct of EI is relatively new, there is not a huge amount of research experience using different methods to assess this dimension, and the development of newer methods is continuous. There are, however, some constructs which are well based and

have been psychometrically tested. In summary, we can say that most studies used these methods, and in cases which applied new methods the psychometric conditions were tested.

In one-third of the studies (all but one of them in connection with alcohol use; the exception is a study dealing with OCD), the methods used are only able to assess one component of EI, namely the identification of emotions mediated by facial expressions. In each of these studies the authors had been working with the method of showing pictures of facial expressions. A Belgian research team used the *Emotional Facial Expression Test* (Hess & Blairy, 1995) in several of their studies (Foisy et al., 2005; Foisy et al., 2007a; Foisy et al., 2007b; Kornreich et al., 2002, 2003; Kornreich et al., 2001a; Kornreich et al., 2001b; Philippot et al., 1999). In two British studies (Oscar-Berman et al., 1990; Townshend & Duka, 2003), the authors had been working with the series of facial pictures designed by Ekman and Friesen (1976) and a method by Sprengelmeyer et al. (1997). In a US study (Rozin et al., 2005), other series of pictures were used (Calder et al., 1996; Matsumoto & Ekman, 1988; Rozin et al., 1994, 1999), and the authors had been working with series of video clips by Hejmadi and his colleagues (Hejmadi, 2003; Hejmadi et al., 2000, 2003). In an Italian study (Frigerio et al., 2002), the picture measures of Benson and Perrett (1991) and Rowland and Perrett (1995) were employed. In a Hungarian study (Matyassy, Kelemen, Sarkozi, Janka, & Keri, 2006), the participants answered the *Baron-Cohen Eyes Test* (Baron-Cohen et al., 2001).

In the rest of the works, all dimensions of EI were studied, but by means of divergent measures. In the majority, self-report questionnaires were used, but a smaller number of ability measures, the so-called performance tests, were also applied. Both methods are used to measure EI, but the former is based upon the person's subjective self-rating while the latter is able to assess more objective abilities manifested through performance situations. These differences are worth bearing in mind for the interpretation of our study and the results of this branch of research.

Statistical Analysis. Over 80% of the studies applied multivariate statistical analysis to assess casual relationships, while 5 studies used only correlation and/or *T*-test, and another 5 used only ANOVA to calculate results. Among multivariate methods, different types of regression analyses were the most popular (13 studies) and another 6 studies applied MANOVA. Methods offering the possibility of assessing mediation or moderation variables (path analysis, structural equation model) were applied in 4 studies. In one study (Schutte et al., 1998), there were no data available regarding the statistical analysis. In another study (Besharat, 2008) the author only applied an EI construct to estimate reliability and validity of the Farsi Version of the Toronto Alexithymia Scale in a substance user sample and it did not reveal any further result relevant to our research question.

Summary of Research Findings

Alcohol Consumption and Emotional Intelligence. Overall, 21 of the studies identified presented an alcohol user sample, either exclusively or together with other samples. As we have mentioned above, 12 of these studies solely measured the ability to identify emotions, thus covering only one component of EI. Oscar-Berman and colleagues (1990) were the first to draw attention to the fact that alcohol addicts, especially those suffering from Korsakoff's syndrome, have difficulties in identifying and decoding emotions mediated by facial expressions. Recently, a Belgian team has confirmed this result in several publications. In their studies, alcohol patients, examined shortly after a detoxification treatment, scored lower on the EFE test than the healthy control group or people suffering from OCD (Kornreich

et al., 2001a). Underlying the inaccuracy of decoding is the overestimation of intensity of emotions, especially negative ones, characteristic of alcohol patients (Foisy et al., 2007a; Kornreich et al., 2001b; Philippot et al., 1999; Townshend & Duka, 2003). They also tend to associate negative emotions more often with each of the presented facial expressions (Foisy et al., 2007b). Furthermore, Kornreich and colleagues have pointed out that the ability to identify emotions is tightly and negatively associated with interpersonal problems, and these problems seem to be a mediating factor between emotional identification deficits and alcoholism (Kornreich et al., 2002). All of these findings may relate to results stating that people with alcohol addiction tend to interpret facial expressions, like sadness or disgust, falsely as emotions describing interpersonal conflicts, like anger or contempt (Philippot et al., 1999). This latter result is also supported by an Italian study (Frigerio et al., 2002). A further important outcome of these investigations showed that alcohol-addicted patients, in spite of their weaker capacity, rate these emotion-decoding tasks at the same difficulty level as do people from the control groups. It therefore seems as though they are not aware of their difficulties in identifying emotions. At the same time, however, this distortion in the subjective ratings is not only characteristic of alcohol addiction, but is present in the case of opiate-addicted people as well (Foisy et al., 2005; Kornreich et al., 2003). These studies also highlighted that alcoholism is associated with poorer emotion-decoding abilities than compulsive use of opiates. Those people with opiate addiction who did not have alcohol problems showed significantly better capacity for identifying emotions than those who had only alcohol problems or problems with alcohol and opiates at the same time.

Matyassy and colleagues (2006), in their study on Hungarian alcoholic patients, have also examined decoding capacity for emotions. They were not, however, working with basic emotions but with complex social emotions and mental states by means of the Eyes Test (Baron-Cohen et al., 2001). In contrast with the above cited results of Kornreich and his colleagues, they found no difference between alcoholic patients and the control group described by a maximum extent of social drinking.

Each of the remaining 9 studies concerning alcohol use was carried out on normal, nonclinical populations and they were utilizing measures which operationalized the whole of the recently-used EI construct. Those studies however, which had been using *self-rating measures*, reported contradictive results. Saklofske and colleagues in their recent study (Saklofske et al., 2007) had found no relationship between alcohol use and EI measured by the *Assessing Emotions Scale* (AES) (Schutte et al., 1998), while Austin and her colleagues in a former study presented a negative correlation between the intensity of alcohol consumption and EI measured by means of AES (Austin et al., 2005). Riley and Schutte (2003) had found more problems in working, social, and other aspects of life associated with alcohol use in the case of people described by lower values of AES. In a Greek study, where the *Traits Emotional Intelligence Questionnaire* (TEQI) (Tsaousis, 2003) was applied, although there was no correlation between the total score of EI and the daily amount of alcohol consumed, a weak negative relationship emerged between the factor "Understanding and Reasoning of Emotions" and alcohol use (Tsaousis & Nikolaou, 2005). The *Emotional Quotient Inventory* constructed by Bar-On (1997) was applied in two studies, one of which supported the hypothesized negative relationship between the quantity of alcohol consumed and the perceived level of EI (Brackett & Mayer, 2003), while in the other study this relationship was not confirmed (Austin et al., 2005). In a recent study, Ghee and Johnson (2008) asked university students about their alcohol use, their perceived alcohol frequency norms, and their perceived alcohol amount norms. Though EI (AES) was not significantly correlated with any of the alcohol-related variables, EI has moderated the effect of perceived peer alcohol norms on university students' alcohol use. Namely, the

relationship between perceived peer alcohol amount/frequency norms and alcohol use was stronger for students with lower EI scores than students with higher EI scores.

Performance tests, which conceptualize EI as ability, were employed in two studies. Brackett and Mayer (2003) applied performance test besides the EQ-i, but the performance test indicated no relationship with alcohol use. In their later study, however, the supposed relationship, especially in the case of men, was confirmed (Brackett, Mayer, & Warner, 2004).

Only one study was carried out on an adolescent population, and a significant reverse relationship was found between the ability of EI and the quantity of alcohol consumed (Trinidad & Johnson, 2002).

Smoking and Emotional Intelligence. Out of the 36 studies, 10 examined the relationship between smoking and EI. Most of them were completed on samples of college students. Brackett and his colleagues in the studies mentioned above (Brackett & Mayer, 2003; Brackett et al., 2004) neither with self-rating nor with performance tests found any correspondence between the intensity of smoking and the level of EI. Similarly, the lack of correspondence is also true for the studies carried out by Saklofske and colleagues (2007). On the contrary, the results of Tsaousis and Nikolaou (2005) supported the role of EI in the background of smoking, as in cases of alcohol use. With regard to alcohol use, however, the dimension "Understanding and Reasoning of Emotions" was proven to have a protective effect: smoking used another dimension called "Control of Emotions." Limonero et al. (2006), employing the *Trait Meta-Mood Scale* (TMMS) (Salovey et al., 1995) on a sample of psychology students, also found a connection between smoking and EI. On the one hand, there was still no link between the total score of scales and smoking, but on the other hand, both the "Repair" scale, used to assess the capacity of controlling one's moods, and the "Clarity" scale, assessing the clarity of perception of these moods, were associated with different characteristics of smoking. These associations highlight that those who find themselves less successful in controlling their moods are more likely to smoke and have their first cigarettes at a younger age. Furthermore, those who have difficulties with the clear perception of their own moods tend to smoke more cigarettes than those who perceive themselves to be more successful in decoding them.

Trinidad and his colleagues were investigating the relationship between smoking and EI in several studies with adolescents (Trinidad & Johnson, 2002; Trinidad, Unger, Chou, Azen, Johnson, 2004a; Trinidad et al., 2004b, 2005). To assess the level of EI present in different performance situations they applied a version of the *Multifactor Emotional Intelligence Scale* developed for adolescents (AMEIS) (Mayer et al., 1997). According to their results, a lower level of EI is associated with the first incidence of smoking at a younger age and with more intensive smoking (Trinidad & Johnson, 2002). On the other hand, abstaining from smoking and the first cigarette smoked at an older age are associated with a more developed ability to identify emotions. Accordingly, it seems as if the ability to decode emotions plays a part not only in alcohol dependence but also in cases of nicotine dependence. In another study, Trinidad and his colleagues, applying the methods of linear and logistic regression, have shown that adolescents described by more developed EI associate more negative social consequences with smoking (e.g., losing the friendship of nonsmokers), they consider themselves more successful in rejecting smoking and they have less intention of smoking in the future (Trinidad et al., 2004b). In cases of a more developed EI, only the former trial of cigarettes gives a higher probability for their use in the future; in cases of lower levels of EI, the higher level of hostility and/or the lower level of perceived ability to refuse a cigarette can be regarded as risk

factors (Trinidad et al., 2004a). Former experiences therefore have no effect on future intentions of adolescents with less EI, supposedly because they are less aware of their own emotions and behaviors. As regards adolescents who are emotionally more intelligent, the facilitating effect of hostility may not be present because they are more successful in controlling their emotions. A further interesting result is that EI acts like a protective factor between difficulties of acculturation and the perceived social consequences of smoking. For those adolescents who can acculturate into a new environment more easily, a higher level of EI helps them to perceive social consequences related to smoking (e.g., “smoking cigarettes is one way to lose friends who are non-smokers”) (Trinidad et al., 2005, p. 1699).

Drug Use and Emotional Intelligence. With regard to illegal substance use, the first study was carried out by Schutte and colleagues (1998). While validating their self-rating questionnaire, the AES, they compared the level of EI of the participants of a drug-therapy program and the EI of the therapists. Their results were not surprising; the therapists had more developed EI than the drug-users. Applying the same measure, Brackett and Mayer (2003) found no relationship between illegal substance use and EI, but Riley and Schutte (2003) had results suggesting that lower perceived EI relates to more medical, vocational, judiciary, and other types of problems. Performance tests were employed in only two of the studies and only one of them supports the reverse relationship between substance use and EI in case of men (Brackett et al., 2004).

At the same time, one weakness of the above-mentioned studies is that they lack differentiation between the different types of substances used. Clinical observations discussed before (Khantjian, 1985; Wurmser, 1995) suggest, however, that people with different preferred substances may differ regarding their emotional competences. Unfortunately, however, only four studies were carried out to examine the relationship between specific illicit drugs and EI.

Opiate Use. According to Kornreich and colleagues (2003), people with opiate addiction performed worse in the task of identifying emotions than the controls, but better than people with alcohol addiction or alcoholic opiate users.

Cannabis Use. Limonero and colleagues (2006) investigated smoking and the use of cannabis by university students and their relationship with the perceived EI measured by the questionnaire TMMS. According to their results, lower scores on the dimension of controlling emotions (“Repair”) are predictive factors not only for smoking but for the use of cannabis on a regular basis also. Lower scores were also associated with the first use of cannabis at a younger age. Control of emotions explains nearly one-third, 29% of variance of the total of cannabis consumed, overall. These authors have also emphasized another component of EI, the identification and clear perception of emotions (“clarity”) with regard to cannabis consumption. Those who score higher on this dimension consider cannabis to be a more dangerous drug, and also they have a lower probability of becoming an occasional user.

Two years later, Craig et al. (2008) did not find any differences between cannabis users’ and nondrug users’ EI (AES). Participants were recruited via direct approach to university students and via the snowball method.

Use of MDMA. In a recent study, polydrug ecstasy users and polydrug nonecstasy users were compared with regard to their emotional and social intelligence and other aspects (Reay et al., 2006). Those using ecstasy scored lower on all measures than polydrug nonecstasy users, and thus on the questionnaire AES as well, which had been employed for the assessment of EI. These differences remained significant even when the consumption

of alcohol, cigarettes, cannabis, and cocaine was controlled. Craig et al. (2008) also asked polydrug ecstasy users to compare their perceived EI (AES) to abstinent persons and cannabis users. Contrary to their expectations, there were no statistically significant group differences in EI. However, those who paid more attention to their health during ecstasy use (taking regular rest breaks when dancing or monitoring fluid intake) scored significantly higher on EI than those who did not.

Behavioral Addictions and Emotional Intelligence. Nevertheless, behavioral addictions are not present as a separate diagnostic cluster in DSM-IV-TR (American Psychiatric Association, 2000), and some of these disorders do not even appear in any of the diagnostic systems; their characteristics have a strong connection with chemical addictions. Owing to their main symptoms—such as compulsive, cyclic, repetitive, and harmful characteristics of behavior—they seem to be closely related to chemical addictions and impulse-control disorders. Consequently, in the study of the relationship of EI and addictions, it is important to review the works regarding these disorders as well. It is worth mentioning, though, that the psychological background of these disorders, with the exception of eating disorders and gambling, is largely uncharted territory as yet. It is therefore not surprising that the number of studies dealing with EI is extremely low. The seven studies encountered in this topic were carried out in the last four years.

Internet Addiction. In a Swedish study, researchers have assessed the habits of college students' internet usage, their personality traits, values, loneliness, social accommodation, and their ability to identify emotions (Engelberg & Sjöberg, 2004). They did not investigate the total level of EI but only one of its components by means of a series of tasks based on three different measures: the *MSCEIT* (Mayer et al., 2002), the *Lightfoot battery* (Engen, Levy, & Schlosberg, 1957), and a method applied by themselves (Sjöberg & Engelberg, 2005). In one of the methods, students had to identify various emotions in 12 facial expressions, and in the other task they had to identify them in two-person situations. According to the results, people scoring higher on the *Internet Addiction Scale* (Young, 1998) performed worse in both emotion-decoding tasks. Emotion-decoding capacity was responsible for 20% of the variance of internet addiction. Similar results appeared in a current study (Parker et al., 2008), where the Internet Addiction Scale negatively correlated with the *Emotional Quotient Inventory Youth Version* (EQ-i YV) (Bar-On & Parker, 2000). The results showed that "Stress management" and "Adaptability" were particularly important EI components for internet addictions. While knowing these results, one surmises that if sensitivity to emotional signs makes a person capable of creating and maintaining real, face-to-face relationships, the lack of these skills might contribute to the more intensive use of the internet and the substitution of real-time relationships by online ones. On the other hand, internet use can become an alternative coping strategy for young people who cannot manage stress and find it hard to adapt to different situations (Demetrovics, Szeredi, & Rozsa, 2008).

Impulsive Buying. Lin and Chuang (2005) studied the relationship between EI (AES) and impulsive buying (applying the *Impulsive Buying Behavior Questionnaire* [Kacen & Lee, 2002]) with subjects between 15 and 19 years of age in a shopping mall. Results show that there is a significant correspondence between lower levels of EI and impulsive buying behavior.

Problem Gambling. Kaur et al. (2006) have studied the relationship between problem gambling and gambling control self-efficacy in an adult population. According to the results, a lower level of EI measured by means of AES implies a significantly higher risk of problem gambling. In accordance with this, those who have a higher level of

EI, perceive themselves as more successful and effective in controlling gambling. Partial mediation analysis has indicated that gambling control self-efficacy plays a mediating role in the relationship between EI and problem gambling. Parker and colleagues (2008) have confirmed this relationship using the EQ-I YV test. They reported slight but significant negative correlation between *South Oaks Gambling Screen-Revised for Adolescents* (SOGS-RA) (Winters, Stinchfield, & Fulkerson, 1993) and the self-report EI questionnaire. The “Interpersonal” scale showed the strongest (negative) connection with problem gambling, which probably means that empathy, social responsibility, and interpersonal relationships are protecting factors for controlled gambling.

Eating Disorders. Many studies aim to reveal the relationship between eating disorders (anorexia nervosa, bulimia nervosa) and alexithymia (Corcos et al., 2000; Schmidt, Jiwan, & Treasure, 1993). These works mark unequivocally the difficulties in identifying, differentiating, and naming emotions in cases of these disorders. On the other hand, only one study so far deals with the relationship between eating disorders and EI. Markey and Vander Wal (2007) studied the connection between the tendency to bulimia (*BULIT-R*) (Thelen, Farmer, Wonderlich, & Smith, 1991), alexithymia (*TAS-21*) (Bagby, Taylor, & Parker, 1994), coping characteristics (*Brief Cope Inventory*) (Carver, 1997), and the perceived level of EI (*EQ-i Short Version*) (Bar-On, 2002) in a female college student population in the United States. On the basis of multiple regression analysis, only one of the variables, EI, proved to be a significant predictor of the tendency to bulimia.

Obsessive-Compulsive Disorder. Individual differences in the tendency to OCD and ability to identify negative emotions were examined in an undergraduate student sample (Rozin et al., 2005). Different kinds of slides and video clips to assess the ability to identify emotions and *Foa's Obsessive-Compulsive Inventory* (Foa, Kozak, Salkovskis, Coles, & Amir, 1998) were used. Comparison of high- and low-tendency OCD groups showed no statistical differences regarding the decoding of different negative emotions. Only a nonclinical sample participated in this study, however, and it would be interesting to compare control groups of diagnosed OCD patients.

Compulsive Hoarding. Compulsive hoarding is a disorder not yet included in the diagnostic systems, whose psychological background still needs to be uncovered (Frost & Gross, 1993). Its relationship with EI was studied in only one work (Grisham et al., 2007), where researchers supposed that in cases of compulsive hoarding, emotional and interpersonal problems should be present. The authors compared compulsive hoarders, patients diagnosed with anxiety or mood disorders and controls without a clinical diagnosis with the help of AES. Results show that although EI is present as a main component in the analysis, post-hoc evaluations do not support the presence of significant differences between the groups.

Discussion

In the present study, we have reviewed all those works dealing with the relationship between EI and chemical or behavioral addictions. As the result of an exhaustive search we identified 36 such studies. Methodological assessment indicated that the majority of these studies are of good quality. Studies generally applied convenience sampling, which can probably be ascribed to the novelty of the issue and the rather explorative nature of the investigations. In future, however, there is a need to apply more systematic sampling methods, that is, consecutive sampling in clinical studies and population-based probability sampling methods in surveys. On the other hand, measurement of EI in most cases is done by widely-used and/or properly-tested methods. The dominance of multivariate statistical methods is also

promising, but more analysis to assess mediation or moderation variables will be necessary in future research.

In this field—especially regarding illegal drug use and behavioral addictions—there is a restricted number of results, and we could present only a few studies revealing some aspects of the nature of this relationship. From this review, we can tell that consistent data support the theory that lower levels of EI correspond to more intensive and more problematic alcohol consumption and smoking, and also to more intensive use of illegal substances. Although only one or two studies are available for each, similar results are present regarding behavioral addictions, such as bulimia, internet addiction, problem gambling, and impulsive buying.

The results we referred to earlier report that two particular components of EI, namely the *decoding and differentiation of emotions* and *regulation of emotions*, play a key role regarding substance use and addictions.

Decoding of emotional states is less accurate in cases of alcoholics, intensive smokers, cannabis users, and problematic internet users. These results fit well with the line of research intended to reveal the relationship between alexithymia and addictions (Finn, Martin, & Pihl, 1987; Rybakowski, Ziolkowski, Zasadzka, & Brzezinski, 1988; Taylor, Parker, & Bagby, 1990), if we consider that underdeveloped ability of the differentiation of emotions is also a component of alexithymia. In accordance with clinical observations, research results also indicate weaker abilities of mood and emotion regulation of smokers, drug users, and problem gamblers. It is worth mentioning, however, that only a few of the studies on this topic so far deal with the separate components of EI. In order to assess them, it would be beneficial to use a measure that can operationalize all the different factors involved in EI.

Because only *cross-sectional* studies which have applied correlation and regression methods for the evaluation of data are available, the most we have to go on are only assumptions about the causal relationships between the factors investigated. Kornreich and colleagues (2003) suggest, for example, that the damage to some specific areas in the brain may be responsible for difficulties in decoding emotions in the case of people suffering from alcohol dependence. They suppose that intensive use of alcohol causes damage to those areas that play a major role in decoding emotions mediated by facial expressions. The reverse relationship, however, is also possible. Difficulties in decoding emotions can be a risk factor in problematic alcohol use, which then in a vicious circle can have further negative effects regarding the competencies of identifying emotions.

The question therefore remains open as to whether a person starts to use a substance because he/she is not able to deal with his/her own emotions and other people's feelings adequately, or because the substance use has a devastating effect on the person's level of EI. The self-medication theory of Khantzian (1985), and the psychoanalytic theories we mentioned in the introduction, unequivocally support the first idea. According to these theories, the person, because he/she has difficulties with the differentiation of various emotions can barely understand them and therefore is unable to regulate them. The lack of endogenic capacity for regulation leads to the search for exogenic regulating factors, such as different chemical substances or addictive behaviors. For an understanding of these causal and time relations, it would be sensible to carry out longitudinal studies.

Also significant to mention is that while interpreting these results we have to take into consideration one important methodological aspect. In the research for EI, the differentiation between performance tests and self-rating questionnaires is a recurrent question. To attain most of the results that we have presented in this review, researchers employed self-rating questionnaires. Use of these measures means an easier, more economic, and faster solution, but at the same time it carries a higher possibility of distorted data. These measures

assess the *perceived* level of EI, which is not necessarily equal to the person's actual level of EI. Schutte and colleagues (2007) found that while self-rating tests have a significant link with mental health, in cases of performance tests this relationship is not present. They suggested it might be a result of the methodological distortion because both data regarding mental health and data regarding EI were collected with the help of self-rating measures. We should note that self-evaluation plays an important role in self-rating questionnaires and might influence the results. In the case of clinical samples, self-evaluation problems are even more frequent and this could have an effect on the results of EI measures. We have seen, for example, that women suffering from bulimia consider their level of EI to be lower. In this result, problems of self-evaluation, characteristic of bulimia, can also play a part (Markey & Vander Wal, 2007). Knowing this, we can conclude that wider application of performance tests and use of the two methods together is a direction for future research. The latter suggestion is especially important if we wish to understand the relationship between these two approaches more precisely.

We also have to emphasize that, especially in connection with illegal substance use and behavioral addictions, the populations studied were almost exclusively university and college students. Regarding the future, it would be important to apply clinical samples more intensely. A further deficiency of the former studies is that they tell us nearly nothing about the role of EI in the differentiation of substance user groups with specific consumption patterns (e.g., first users, recreation users, intensive or compulsive users), just as the comparison of people using different types of substances has yet to be done. This second aspect is especially important if we consider that clinical observations simply suggest that in the background to the use of different substances there may be different types of deficits of emotion regulation (Khantzian, 1985; Wurmser, 1995). We also have poor knowledge on the possible effects of gender, age, and ethnicity on the relationship between substance use and EI. However, research on these factors would be necessary as they are significant factors both in substance use and EI.

Finally, we can conclude that in the research on the relationship between EI and addictions only the first steps have been taken. At the same time, many results of this early stage can bring us closer to an understanding of the nature of addictions. It is beyond any doubt that the ability to identify, express, and regulate emotions is tightly bound up with the formation of chemical substance use, similarly to the appearance of behavioral addictions. The thorough understanding of this relationship, however, requires further research. Discussion of addictions in this novel context of EI might yield such findings as could be perfectly applied in everyday psychological practice with regard to these disorders in the fields of prevention, rehabilitation, and resocialization.

Declaration of Interest

The authors report no conflict of interest. The authors alone are responsible for the content and writing of this paper.

RÉSUMÉ

Intelligence émotionnelle et addictions: un tour d'horizon systématique.

Depuis les années 2000, un nombre croissant de recherches ont examiné la relation entre l'intelligence émotionnelle (IE) et la santé physique et psychique. Mais en même temps, la relation entre l'IE et les troubles addictifs est restée relativement obscure. Pour ce fait, nous nous sommes engagés à une analyse systématique et à une évaluation critique de la

bibliographie de cette relation. Nous avons identifié quarante-et-une recherches sur le sujet, dont trente-six ont satisfait les critères d'admissions de notre analyse. Selon les résultats, un niveau d'IE faible s'accompagne d'un usage de tabac, et d'une consommation d'alcool et de drogue illicite plus intensive. Selon ces mêmes résultats, deux composants de l'IE jouent un rôle clé du point de vue des addictions: «le décodage et la différenciation des émotions» et la «régularisation des émotions».

RESUMEN

Inteligencia emocional y adicciones: una revisión sistemática

Desde el milenio cada vez más investigaciones se dedican a la relación entre la inteligencia emocional (IE) y la salud física y mental. Al mismo tiempo, la relación entre la IE y los trastornos adictivos se ha quedado relativamente escondido. De ahí que hayamos revisado y evaluado con crítica la literatura profesional de esta relación. Hemos identificado 41 artículos tratando de eso, y 30 de ellos han cumplido los criterios de estar incluido en nuestra investigación. Según nuestros resultados, una IE más baja está relacionada con el fumar, el uso de alcohol y de drogas más intensivo y dos componentes de la inteligencia emocional desempeñan un papel clave desde el punto de vista de las adicciones: el “desciframiento y diferenciación de las emociones” y la “regulación de las emociones”.

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Glossary

Alexithymia: It is a personality trait characterized by difficulty identifying feelings and distinguishing between emotions and corresponding bodily sensations, difficulty describing feelings to others, constricted imaginal life and fantasies, and externally oriented cognitive style.

Emotional intelligence: It is the ability to perceive emotion, integrate emotion to facilitate thought, understand emotions, and to regulate emotions to promote personal growth.

Self-medication hypothesis: It proposes that the individuals' choice of a particular drug is not accidental or coincidental, but instead, a result of the individuals' psychological condition, as the drug of choice provides relief to the user specific to his or her condition. Individuals choose the drug that will most appropriately manage their specific type of psychiatric distress and help them achieve emotional stability.

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