

## Irrational Beliefs and Impostor Phenomenon among High School Students: A Correlational Model and its Relevance to REBT Practice

Diana Paula Dudău

*Titu Maiorescu University, Bucharest, Romania*

### **Abstract**

*This paper proposes a REBT understanding of the mechanisms behind the impostor phenomenon, and sustains it by presenting some theoretical and research based arguments, as well as an analysis of the statistical data revealed from an original study regarding the way fraudulence symptoms relate to four different content areas of irrational beliefs (self-downing, need for achievement, need for approval and need for comfort).*

*The research involved 87 Romanian last grade high school students (Mage = 18.21 years; SD = .40) whose cognitions and feelings were measured using Clance Impostor Phenomenon Scale (CIPS; Clance, 1985) and Shortened General Attitude and Belief Scale (SGABS; Lindner et al., 1999) - two 5-point Likert scale self-report questionnaires with good psychometric properties.*

*As expected, the obtained results emphasized that as each of the four types of irrational beliefs were more accentuated, the inner experience of feeling like a fraud was also more intense and frequent. In addition, the irrational beliefs that proved to be the most relevant for explaining or predicting the impostor phenomenon were the ones associated with the need for achievement.*

*Although the applied research methodology and the statistical procedures do not enable causal interpretations or a direct practical utility of these findings, this research offers a minimum support for the theoretic framework related to the impostor phenomenon and REBT, as well as a starting point for future research. In addition, consistently with these aspects, the article discusses thoroughly some possibly important issues relevant for the REBT theory and practice with regard to impostor phenomenon symptoms.*

**Keywords:** *irrational beliefs, impostor phenomenon, rational emotive behavior therapy*

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**Corresponding author:** Diana Paula Dudău

**Phone number:** -

**Email address:** [diana\\_paula\\_dudau@yahoo.com](mailto:diana_paula_dudau@yahoo.com)

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## I. INTRODUCTION

Rational Emotive Behavior Therapy (REBT) represents one of the most popular psychotherapeutic treatments applied nowadays, considering the fact that its efficacy has been sustained by numerous published studies, as well as the fact that it was regarded very often in the literature as being the first major model of the cognitive behavior therapy approach.

REBT arose in 1955 as a result of Albert Ellis' efforts to formulate a theory of emotional disturbance, as well as to elaborate a series of specialized methods that were meant to overcome the limitations of the analytic approach in the treatment of life difficulties (Dobson & Dozois, 2010).

The core assumption that underlies the REBT psychotherapeutic work is that the people's disturbances lie in their self-defeating cognitions, emotions and behaviors, all of which are intrinsically and holistically related one to another, as well as to the environmental factors, but that the most important component is the cognitive one. Thus, the main therapeutic objectives of the REBT are to identify, dispute and replace the clients' irrational, dysfunctional or sabotaging beliefs, by applying in an active and directive manner, a number of thinking, feel, and action techniques (Ellis, 2002).

Moreover, the theoretical and practical guidelines that frame the REBT approach, are all incorporated into the well-known ABC(DE) model according to which the events that a person experiences (A) activates her belief systems (B) which furthermore, depending on their nature, generate different emotional, behavioral, cognitive and somatic consequences (C). The critical As can be actual or inferred events, external or internal events, and can refer to past, present or future experiences (Dryden & Branch, 2008). The rational beliefs lead to adaptive and healthy (functional) outcomes, whereas the irrational beliefs have a contrary effect, leading to maladaptive and unhealthy (dysfunctional) consequences. Similarly, these consequences could become themselves activating events for the secondary rational or irrational beliefs (metacognitions) that mediate the occurrence of the meta-consequences. Therefore, the REBT therapists teach and support the clients to actively dispute (D) their irrational beliefs in order to facilitate more self-beneficial beliefs, and thus to unlock the access to more healthy, functional and adaptive emotional, cognitive, and behavioral results (Ellis, David & Lynn, 2010).

The irrational beliefs are defined by the fact that they are "rigid or extreme, inconsistent with reality, illogical, largely dysfunctional in their emotional, behavioral and cognitive consequences and largely detrimental to the individual in pursuing his basic goals and purposes" (Dryden & Branch, 2008, p.14). In the REBT literature they are also recognized as "hot cognitions" because they serve an evaluative function through which the "cold cognitions" are processed in terms of their relevance for personal wellbeing (Ellis, as cited in Ellis et al., 2010).

The “cold cognitions” comprise the surface cognitions, often called automatic thoughts, as well as the deep cognitions that consist of core beliefs and other meaning-based representations (Eysenck & Keane, 2000). Therefore, there are four types of interactions between hot and cold cognitions that might occur in response to an activating event: 1) distorted representation of the event/negatively appraised; 2) non-distorted representation/negatively appraised; 3) distorted representation/non-negatively appraised; 4) non-distorted representation/non-negatively appraised (Ellis et al., 2010).

Currently, the irrational beliefs are described in terms of two dimensions – one that refers to the psychological process on which they are based, and other that refers to the thought content related to them (Schnur, Montgomery & David, 2010). Thus, according to the first dimension, the irrational beliefs consist of four categories of cognitive processes: 1) demandingness; 2) awfulizing/catastrophizing; 3) low frustration tolerance; and 4) global evaluation/self-downing. According to the second dimension, each type of irrational processes includes different content areas such as achievement, affiliation, comfort etc. (Schnur et al., 2010). The irrational beliefs counterparts are the rational beliefs that take the form of non-dogmatic preferences, non-awfulizing evaluations, high frustration tolerance statements, as well as self-, others- and life-accepting beliefs, being characterized as “flexible or non-extreme, consistent with reality, logical, largely functional in their emotional, behavioral and cognitive consequences and largely helpful to the individual in pursuing his basic goals and purposes” (Dryden & Branch, 2008, p. 8).

According to Dryden, David and Ellis (2010), the theoretic framework of REBT, has received significant empirical support for its value as a general model of human functioning. Thus, numerous quantitative and qualitative research papers have revealed that the irrational beliefs were reliably associated with measures of emotional disorders and symptoms (such as generalized anxiety, test anxiety, social phobia, low level of well-being, depression, assertiveness deficits, anger, guilt etc.), behavioral problems (such as procrastination, Type A coronary-prone behavior, social avoidance and isolation, comfort eating, medication use, self-harming, dysfunctional anger expression etc.), or even health outcomes (such as increased pain, asthma symptoms, inflammation etc.) and that REBT was effective for both clinical and non-clinical various populations (for more thorough reviews see Browne, Dowd & Freeman, 2010; Caserta, Dowd, David & Ellis, 2010; David, Freeman & DiGiuseppe, 2010; Szentagotai & Jones, 2010).

However, in spite of this broad research work that has been conducted over time, there are still many not sufficiently studied areas regarding the role of rational and irrational beliefs in the emergence, maintenance, aggravation, or improvement of different symptoms related to psychological functioning. One such example is the application of REBT theory and practice regarding impostor phenomenon, a construct that encompasses a disturbing conglomerate of

specific emotions and cognitions that affects a large number of successful people who encounter difficulties especially when they must deal with self-performance situations.

The term came to professionals' attention as a result of the publication of an article in which Clance and Imes (1978) presented their observations regarding 150 women who, despite their true outstanding achievements, were feeling as if they were deceiving everyone who perceived them as being intelligent and competent. The most important characteristics which Clance and Imes (1978) identified as being defining for the persons plagued by such internal experiences were the facts that: they were not able to explain their success otherwise than in terms of luck, errors, coincidences, they considered themselves not intelligent and good enough, they felt and thought that others were overestimating them, they were immune to evidence that contradicted their self-perception, and they were living with the fear that significant others would eventually uncover their so-called intellectual fraud.

The subsequent empirical work regarding the impostor phenomenon that has been conducted on different populations since this pioneering paper, was generally consistent with the initial conceptualization of this construct, resulting in frequent similar descriptions of its characteristics in terms of distorted perceptions, evaluations and feelings with respect to: one's abilities and qualities; the implications of personal failure or achievement; the need to satisfy own or others high expectancies or to obtain excellent results (e.g., Clance & O'Toole, 1988). Moreover, numerous studies have revealed that the impostor phenomenon was associated with a series of psychological variables in a way that it was expected to be, considering its specific symptoms. For example, there was evidence to suggest that the persons with fraudulence feelings, also tended to experience fear of failure and success (e.g., Fried-Buchalter, 1997), anxiety (e.g., Oriel et al., 2004), depression (e.g., McGregor et al., 2008), low self-acceptance and well-being (e.g., September et al., 2001), neuroticism (e.g., Bernard et al., 2002), perfectionistic cognitions (Ferrari & Thompson, 2006), self-evaluative perfectionism (Dudău, in press), low self-esteem (e.g., Ghorbanshirdi, 2012), social anxiety (Chrisman et al., 1995) etc.

In addition, although the impostor phenomenon was highly correlated with such psychological states, it represents a distinct subjective experience from them, considering the fact that it could not be totally accounted by anyone of them or by any combination of them (Spinath, 2011). This also means that, besides some common elements, it also encompasses other specific defining symptoms - such as the feeling of having fooled everyone - that are not usually met in other conditions. Thus, according to Clance (1985), the main components that seem to best describe the impostor phenomenon are: the feeling of being a swindler, accompanied by the constant fear of being unmasked; the belief of not deserving own achievements and implicitly the tendency to discount praise and personal successes; the tendency to apply an external attributing style regarding own accomplishments, even though the internal causes would have been

perfectly justified from a realistic point of view. Moreover, all these components interact one to another forming a cyclic pattern of relations that generates, maintains and increases the disturbing experience of perceived fraudulence. Clance et al. (1995) explain that the persons with impostor symptoms usually overestimate the standards of performance or the complexity of every task that implies them using their knowledge and abilities. Consequently, they manage the situation by applying over-compensatory or self-sabotaging strategies which are further used as self-counterarguments against others' positive feedback regarding their competency. Thus, the contradiction between the received praise regarding their objective success on one hand, and their personal distorted explanations on the other hand, reinforces the fraudulence feelings and cognitions. From this point, the maladaptive pattern of the impostor phenomenon starts all over again in a loop that keeps repeating, unless something changes inside of it.

In the light of the REBT theoretic framework that I have briefly presented above, I assume that this cyclic mechanism of disturbance could also be clearly explained in terms of the ABC(DE) model. Thus, it could be considered that every task that implies the persons with impostor symptoms being evaluated represents and activating event (A) for their irrational beliefs (B), such as "I absolutely must do a good job", "It will be a disaster to fail", "If I don't manage properly the task, it means that I'm truly an incompetent and bad person, cheating everyone who thinks that I'm smart", "I won't be able to stand the shame of not succeeding" etc. Furthermore, the B component leads to a series of troubling consequences (C) - unhealthy negative emotions (e.g. exaggerated fear, sadness etc.), more distorted cognitions (e.g. "My thinking proves that I'm not good enough"), maladaptive behaviors (e.g. procrastination, over-preparation etc.) and physiological discomfort (anxiety or psychosomatic symptoms). Each one of these may become activating events that generate more distorted cognitions (e.g., "I did well because I worked really hard or because I had luck"), followed by a disturbing subjective experience and unproductive behaviors. Thus, I presume that the impostor cycle could be reloaded and reinforced again and again, unless the irrational beliefs of the persons with fraudulence symptoms are replaced with a more rational style of thinking (D & E components).

Consistently with this hypothetical REBT description of the mechanisms behind the impostor phenomenon, the primary purpose of this study was to analyze the relations between the symptoms underling this disturbing inner experience and the irrational beliefs regarding the need for achievement, need for approval, need for comfort and self-downing content areas, among Romanian high school students. I presumed that as the irrational beliefs related to the four content areas would increase, the impostor phenomenon tendencies would also increase and would be significantly predicted by each of the four types of irrational beliefs. The secondary objective of this study was to explore the pattern of irrational beliefs' content areas which best explain the fraudulence feelings.

## II. METHOD

### 1. Participants

The research group that I included in the present study comprised 87 Romanian adolescents who were about to take their graduation high school exam (the baccalaureate exam). The age of the participants was ranging from 18 to 19 years old ( $M_{age} = 18.21$  years;  $SD = .40$ ). There were 50 females and 37 males; 40 of them were studying humanities while the rest of them ( $N = 47$ ) were part of the science class.

The reason for choosing this category of participants was to use a sample that was less studied regarding the impostor phenomenon (Caselman et al., 2006), as well as to measure the irrational beliefs and impostor phenomenon cognitions and feelings, in a moment when there were high chances for an objective stressor to contribute to the activation or increase of such tendencies.

This last rationale is generally concordant with the underling theory of the cognitive model that explains people's emotional, behavioral and physiology problems and manifestations, as being caused mainly by the way they interpret their experienced internal and external events. More precisely, I presumed that the coming final exam, as an important stage in one's life, could be a common factor that facilitates the activation of some dysfunctional cognitions that could further lead to a diversity of psychological manifestations which, in some cases, could even necessitate a specialized intervention. However, I mention that this hypothesis is based on common sense and personal observations, so it's not scientifically supported. Moreover, my intention was only to enhance the control of my research group, by including this particular factor (the students' year of study) on the list of the possible intermediate variables that could, hypothetically speaking, influence the obtained results.

Other such variables that I took into account when I constituted the research group were: age (ranging from 17 to 19 years old), gender (the balance between the number of boys and girls), high school study program (the balance between humanities versus science specializations) and the place where the participants were born and raised (urban versus rural).

Thus, I restrained the level of my sample's representativeness to the population of the last grade high school Romanian adolescents, coming from the urban zone. The level of representativeness was low considering the small sample size, the fact that it does not reflect the Romanian population's demographic proportions, and the fact that all participants were volunteers from the same institution.

## **2. Measures**

### **2.1. Clance Impostor Phenomenon Scale (CIPS)**

CIPS is a five point Likert scale questionnaire consisted of 20 items that were designed by Clance in 1985 in order to identify the respondents' self-evaluations regarding the degree to which they experience impostor symptoms.

According to the factor analysis conducted by Chrisman, Pieper, Clance, Holland & Glickauf-Hughes (1995) the instrument has a three-factor underlying structure defined by the tendency to have self-doubts regarding own intelligence and general ability (the "fake" factor), the incapacity to acknowledge the personal contribution involved in own success (the "luck" factor), the tendency to depreciate the value of personal work and high accomplishments, as well as the difficulty to accept the positive feedback from others (the "discount" factor).

Despite these results, CIPS scoring procedure implies calculation of a single general score that estimates the cognitive and affective characteristics that best describe the impostor phenomenon, such as fear of evaluation, fear of not being able to equalize one's past positive results, and fear of being less capable than others. Thus, it is considered that the frequency and intensity of the impostor phenomenon is directly proportional to the obtained global score.

CIPS was not yet adapted and validated on Romanian population, but on American population, it showed good psychometric properties (Chrisman et al., 1995). Scale's internal consistency reflected by the answers given by the students that participated to my study was also good ( $\alpha = .86$ ).

### **2.2. The Shortened General Attitude and Belief Scale (SGABS)**

SGABS is a self-report questionnaire developed by Lindner, Kirkby, Wertheim and Birch (1999), by reducing the 55 items of General Attitude and Belief Scale (GABS; Bernard, 1990) to 26 comprehensive items that cover the same 7 dimensions as the long form. Therefore, the short version of GABS confers few important advantages compared to the original forms (Macavei & McMahan, 2010).

The instrument measures very briefly the rationality dimension of one's cognitions (4 items), and more thoroughly six content areas of one's irrational beliefs, as reflected by the scores obtained on 6 scales: need for achievement, need for approval, need for comfort, demand for fairness, self-downing and other-downing (Lindner et al., 1999). The scores for each subscale are calculated by adding the 5 point Likert scale participants' answers, so that higher scores reflect stronger irrational beliefs. The instrument proved to have good fidelity and validity (e.g., Lindner et al., 1999; MacInnes, as cited in Christy, 2012).

The high school students who participated to this study completed the Romanian version of GABS-Short Form that could be found in David (2006) and used with the permission of The International Institute for the Advanced Study of Psychotherapies and Applied Mental Health. This version is not different from the original one but from the 7 dimensions I selected for the statistical analysis the irrational beliefs related to the need for achievement, need for approval, need for comfort and self-downing. The Cronbach's alpha values that I obtained could be consulted in Table 1.

### **3. Procedure**

The evaluation procedure took place in class, during school hours, in the presence of the teacher and the examiner who maintained a proper quiet environment so that the students could concentrate optimally on the task.

There were four testing subgroups correspondent to four different classes of students, and each subgroup was exposed to the same oral and written standardized instructing. Primarily, the students were given some basic details regarding the research work that was conducted, in order for them to take an informed decision regarding their option to participate to the study. Moreover, they were assured that their data would remain confidential and that their engagement in the study would not imply any kind of risks or harmful consequences for themselves or others. Subsequently, they received a paper copy of each of the two scales and answered the questions individually, without time limit. The whole testing procedure lasted about 15-20 minutes for each class.

## **III. RESULTS**

In order to illustrate the way irrational beliefs were related to impostor phenomenon, I organized the statistically processed data into three types of results (Tables 1-3): the Pearson coefficients for the correlations between CIPS and SGABS scores; the simple linear regression analyses in which the impostor phenomenon was regressed on each of the four contents of irrational beliefs; the multiple regression analysis for finding the best prediction/explanation model of the impostor phenomenon, using the irrational beliefs as predictor variables. The preliminary assumptions of the data to be normally distributed, as well as the absence of any significant outliers were both met.

Table 1. The impostor phenomenon and irrational beliefs – correlation coefficients, *r* confidence interval, the correction for attenuation *r* coefficients, scales’ internal consistency, means and standard deviations.

		Clance Impostor Phenomenon Scale			$\alpha$	<i>M</i>	<i>SD</i>
		<i>r</i>	<i>r</i> 95 % CI	<i>r</i> <sub>corrected</sub>			
SGABS	Self-downing	.47**	[.28, .61]	.56**	.81	10.51	2.61
	Need for achievement	.56**	[.39, .68]	.66**	.83	12.34	2.17
	Need for approval	.36**	[.16, .53]	.44**	.76	10.01	1.70
	Need for comfort	.39**	[.19, .55]	.47**	.78	11.41	2.15
CIPS	Impostor phenomenon	1	-	-	.86	49.96	10.86

Note. *N* = 87; \* *p* < .05; \*\* *p* < .01;

The obtained statistically significant correlations are consistent with my hypotheses, revealing the fact that the students’ impostor phenomenon symptoms generally tended to be more pronounced, as their irrational beliefs regarding self-downing, need for achievement, need for approval and need for comfort, tended to increase.

The effect sizes are medium to large for the association of the impostor phenomenon with self-downing beliefs, large for its association with need for achievement, and medium for its association with need for approval and need for comfort.

Table 2. The simple regression analyses using each of the irrational beliefs contents as predictors for the impostor phenomenon.

Predictor variable	<i>R</i> <sup>2</sup>	<i>R</i> <sup>2</sup> <sub>adjusted</sub>	<i>F</i> <sub>ANOVA</sub>	<i>B</i>	<i>SD</i>	$\beta$
Self-downing	.22	.21	24.08**	1.94	.39	.47
Need for achievement	.31	.30	39.18**	2.80	.44	.56
Need for approval	.13	.12	13.33**	2.34	.64	.36
Need for comfort	.15	.14	15.42**	1.96	.50	.39

Note. *N* = 87; \* *p* < .05; \*\* *p* < .01;

The small differences between the adjusted *R*<sup>2</sup> and *R*<sup>2</sup> that were calculated using the data from Table 2, sustain to a limited degree, the fact that each of the four regression models could have relatively good generalization power.

Moreover, according to the revealed F-ratio values, each of the four regression models could be a better predictor for impostor symptoms, compared to the mean score of each type of

irrational beliefs, considering the fact that, if the null hypotheses were true, the chances to obtain some F-ratios this large would be less than a 0.1%.

The *B* values suggest that, when ignoring the interactions between the predictors variables, the CIPS scores would increase with 1.94, 2.80, 2.34 and 1.96 respectively, if self-downing, need for achievement, need for approval and need for comfort respectively, increased with one unit.

Furthermore, for a more thorough analysis, I conducted a backward multiple regression statistical procedure in order to assess the contribution of each irrational beliefs content area in explaining the fraudulence feelings (but this time when all the other independent variables were taken into account), as well as to identify the best linear combination of independent variables that predicts the outcome variable.

All the assumptions needed to obtain coefficients and regression parameters that, in statistical terminology, are said to be unbiased, were met. Thus, the statistical analysis did not reveal any influential cases, perfect multicollinearity or dependent errors (autocorrelation).

Table 3. The multiple regression analysis: predictors – irrational beliefs; outcome variable – impostor phenomenon; backward method.

Regression Model	$R^2$	$R^2_{adjusted}$	$\Delta R^2$	$F_{ANOVA}$	<i>B</i>	<i>SD</i>	$\beta$
1.	.32	.29	.328**	9.98**			
Self-downing					.81	.73	.19
Need for achievement					2.61	.72	.52
Need for approval					-.24	.82	-.04
Need for comfort					-.68	.94	-.10
2.	.32	.30	-.001	13.43**			
Self-downing					.70	.63	.17
Need for achievement					2.58	.71	.51
Need for approval					-.76	.90	-.12
3.	.32	.30	-.006	19.84**			
Self-downing					.46	.56	.11
Need for achievement					2.38	.67	.47
4.							
Need for achievement	.31	.30	-.005	39.18**	2.80	.44	.56

Note.  $N = 87$ ; \*  $p < .05$ ; \*\*  $p < .01$ ;

The obtained  $R^2$  values, along with the change statistics reflected the fact that each of the four regression models consisted of different irrational beliefs, accounts for a very similar amount of variation in impostor phenomenon symptoms (somewhere around 30-31% of variation). Moreover, considering the limited criterion of having small differences between  $R^2$  and  $R^2$  adjusted values, it could be said that each of the four models might be relatively well generalized.

Consistently with my hypotheses, the  $F$ -ratios suggest that all irrational beliefs (with no regard to the regression model from which they are part of) could be significant predictors for the fraudulence feelings. In addition, the statistical data revealed that, going up from one model to another, it could be noticed an improvement in the ability to predict the outcome variable, and that the model comprised of only the need for achievement predictor was the best of them all.

However, when including all four types of irrational beliefs into the same model, the degree to which each predictor would affect the CIPS scores, if the effects of all other predictors were held constant, is as follows: .81 for self-downing, 2.61 for need for achievement, -.24 for need for approval and -.68 for need for comfort.

#### **IV. FINAL DISCUSSION**

Although the impostor phenomenon does not represent a syndrome, disorder or debilitating mental condition, it is still a troublesome inner experience that may affect one's psychological well-being, contentment, work/academic performance, personal relations or capacity to achieve self-actualization, to a degree that signals the need for understanding its underlying components and mechanisms, in order to further identify the most efficient intervention programs that could help the persons plagued by such ideas and feelings to have better lives.

Therefore, the general purpose of this paper was to present the construct of impostor phenomenon through the lenses of the REBT theory, as well as to suggest implicitly that the use of the strategies and techniques proposed by this therapeutic approach, could lead to highly satisfactory outcomes in the treatment of the fraudulence symptoms. In addition, the specific research goal that I aimed was to investigate the way impostor phenomenon was related to the irrational beliefs regarding four different content areas, among Romanian high school students.

Thus, as expected, the obtained results were consistent with the way impostor phenomenon was conceptualized in the literature (e.g., Clance, 1985; Clance & Imes, 1978), as well as with Ellis' ideas according to which people's psychological problems are highly influenced by their irrational thinking. More precisely, my findings emphasized that as the high school students' irrational self-downing, need for achievement, need for approval and need for

comfort, were more accentuated, their inner experience of feeling like a fraud was more intense and frequent. In addition, the irrational beliefs that proved to be the most relevant for explaining or predicting the impostor phenomenon were the ones associated with the need for achievement.

The research methodology and the statistical procedures that I applied do not enable causal interpretations of these results, nor do they imply that these findings have direct practical utility in the psychotherapeutic work. However, they may constitute a basis for advancing further hypotheses that address important theoretical and practical issues, and that would require more controlled and complex research designs.

For example, considering my findings, the REBT and impostor phenomenon theoretical background, as well as the already existing evidence that sustains the efficacy of REBT approach in diminishing various psychological disturbances, it would be helpful to test experimentally the usefulness of REBT for alleviating the difficulties associated with the fraudulence characteristics, as well as to compare the outcomes obtained as a result of individual or group REBT program, with the ones that follow other psychotherapeutic approaches.

One reason for the importance of such research topics could be the fact that, although theoretically speaking the impostor phenomenon seems to match the ABC(DE) model, its specific traits could raise some treatment obstacles such as anxiety about completing the therapeutic tasks, fears about not doing a good work, rigidity about therapeutic goals etc. (Clance & O'Toole, 1988), all of which could become problematic especially in the context of more directive forms of psychotherapy, such as REBT or other cognitive behavior therapies.

Thus, the question regarding the REBT efficacy in treating the impostor phenomenon symptoms, as well as the issue of finding the best therapeutic practice that would be the most appropriate in working with the persons plagued by perceived fraudulence, remains an opened research topic. Moreover, consistently with these aspects, it would also be important to compare different REBT strategies in order to identify the ones that are most successful, as well as to exclude the ones that prove to be less efficient.

In addition, another question that could arise based on this paper could refer to the possible utility of choosing a specific order in which the irrational beliefs should be addressed in therapy, depending on their content areas. More precisely, the fact that the multiple regression conducted in this study, showed that the impostor phenomenon symptoms were best explained by the irrational beliefs associated with the need for achievement, could suggest the hypothesis that the therapy would achieve better results if these beliefs had priority over the other content areas. As I mentioned, my findings do not offer evidence for such hypothesis but, could at least raise various questions for future studies, such as "If the increase in need for achievement irrational beliefs leads to the biggest increase in impostor phenomenon symptoms, would it be

possible to obtain more rapid or benefic changes in the impostor feelings and cognitions, if these beliefs were disputed and replaced prior to other irrational areas?”.

All in all, despite the already discussed limitations, this study highlights the fact that the perceived fraudulence could be significantly associated with the irrational beliefs related to the need for achievement, need for approval, need for comfort and self-downing content areas, and offers a basis for future research relevant for the REBT theory and practice with regard to impostor phenomenon symptoms, among high school students.

### References

- Bernard, M. E. (1990) . Validation of General Attitude and Belief Scale. Presented at the World Congress on Mental Health Counselling. Keystone, Colorado.
- Bernard, N. S., Dollinger, S. J., & Ramaniah, N. V. (2002). Applying the Big Five personality factors to the impostor phenomenon. *Journal of Personality Assessment*, 78(2), 321–333.
- Browne, C. M., Dowd, E. T., & Freeman, A. (2010). Rational and irrational beliefs and psychopathology. In D. David, A. Ellis & S. J. Lynn (Eds.), *Rational and irrational beliefs. Research, theory and clinical practice* (p. 253-264). New York: Oxford University Press.
- Caselman, T. D., Self, P. A., & Self, A. L. (2006). Adolescent attributes contributing to the impostor phenomenon. *Journal of Adolescence*, 29, 395-405.
- Caserta, D. A., Dowd, E. T., David, D., & Ellis, A. (2010). Rational and irrational beliefs in primary prevention and mental health. In D. David, A. Ellis & S. J. Lynn (Eds.), *Rational and irrational beliefs. Research, theory and clinical practice* (p. 173-194). New York: Oxford University Press.
- Clance, P. R., & Imes, S. (1978). Imposter phenomenon in high achieving woman: Dynamics and therapeutic intervention. *Psychotherapy Theory, Research and Practice*, 15(3), 1-8.
- Clance, P. R. (1985). *The imposter phenomenon: When success makes you feel like a fake*. Toronto: Bantam Books.
- Clance, P. R., Dingman, D., Reviere, S. L., & Stober, D. L. (1995). Impostor phenomenon in an interpersonal/social context: Origins and treatment. *Women and Therapy*, 16(4), 79-96.
- Clance, P. R., & O’Toole, M. A. (1988). The impostor phenomenon: An internal barrier to empowerment and achievement. *Women Therapy*, 6, 51-64.
- Chrisman, S. M., Pieper, W. A., Clance, P. R., Holland, C. L., & Glickauf-Hughes, C. (1995). Validation of The Clance Impostor Phenomenon Scale. *Journal of Personality Assessment*, 65(3), 456-467.
- Christy, D. (2012). Irrational beliefs and postnatal depression: a correlational study. *Association of Rational Emotive Behaviour Therapists*, 15(1), 7-38.
- David, D. (2006). *Tratat de psihoterapiei cognitive și comportamentale*. Iași: Polirom.
- David, D., Freeman, A., & DiGiuseppe, R. (2010). Rational and irrational beliefs: Implications for mechanisms of change and practice in psychotherapy. In D. David, A. Ellis & S. J. Lynn (Eds.),

- Rational and irrational beliefs. Research, theory and clinical practice* (p. 195-217). New York: Oxford University Press.
- Dryden, W., & Branch, R. (2008). *Fundamentals of rational emotive behaviour therapy. A training handbook (2<sup>nd</sup> ed.)*. Sussex: John Wiley & Sons.
- Dryden, W., David, D., & Ellis, A. (2010). Rational emotive behavior therapy. In K. S. Dobson (Ed.), *Handbook of cognitive-behavioral therapies (3rd ed.)* (p. 226-276). New York: The Guilford Press
- Dobson, K. S., & Dozois, D. J. A. (2010). Historical and Philosophical Bases of the Cognitive-Behavioral Therapies. In K. S. Dobson (Ed.), *Handbook of cognitive-behavioral therapies (3rd ed.)* (p. 3-38). New York: The Guilford Press.
- Dudău, D. P. (in press). Te relation between perfectionism and impostor phenomenon. *Procedia - Social and Behavioral Sciences*.
- Ellis, A. (2002). Rational emotive bahavior therapy. In M. Hersen (Ed.), *Encyclopedia of psychotherapy (Vol. 2)* (p. 483-487). Waltham: Academic Press.
- Ellis, A., David, D., & Lynn, S. J. (2010). Rational and irrational beliefs: A historical and conceptual perspective. In D. David, A. Ellis & S. J. Lynn (Eds.), *Rational and irrational beliefs. Research, theory and clinical practice* (p. 3-22). New York: Oxford University Press.
- Eysenck, M., & Keane, M. (2000). *Cognitive Psychology: A student's handbook (4<sup>th</sup> ed.)*. Hillsdale, NJ: Erlbaum.
- Ferrari, J. R., & Thompson, T. (2006). Impostor fears: Links with self-perfection concerns and self-handicapping behaviours. *Personality and Individual Differences, 40*(2), 341-352.
- Fried-Buchalter, S. (1997). Fear of succes, fear of failure and the imposter phenomenon among male and female marketing managers. *Sex Roles, 37*(11/12), 847-859.
- Ghorbanshirodi, S. (2012). The relationship between self-esteem and emotional intelligence with impostor syndrome among medical students of Guilan and Heratsi universities. *Journal of Basic and Applied Scientific Research, 2*(2), 1793-1802.
- Lindner, H., Kirkby, R., Wertheim, E., & Birch, P. (1999). A brief assessment of irrational thinking: The Shortened General Attitude and Belief Scale. *Cognitive Therapy and Research, 23*, 651-663.
- Macavei, B., & McMahon, J. (2010). The assessment of rational and irrational beliefs. In D. David, A. Ellis & S. J. Lynn (Eds.), *Rational and irrational beliefs. Research, theory and clinical practice* (p. 115-147). New York: Oxford University Press.
- McGregor, L.N., Gee, D. E., & Posey, K. E. (2008). I feel like a fraud and it depresses me: The relation between the impostor phenomenon and depression. *Social Behavior and Personality, 36*(1), 43-48.
- Oriel, K., Plane, M. B., & Mundt, M. (2004). Family medicine residents and the impostor phenomenon. *Family Medicine, 36*(4), 248-252.

- Schnur, J. B., Montgomery, G. H., & David, D. (2010). Irrational and rational beliefs and pshysical health. In D. David, A. Ellis & S. J. Lynn (Eds.), *Rational and irrational beliefs. Research, theory and clinical practice* (p. 253-264). New York: Oxford University Press.
- September, A. N., McCarrrey, M., Barnowsky, A., Parent, C., & Schindler, D. (2001). The relation between well-being, impostor feelings and gender role orientation among Canadian university students. *The Journal of Social Psychology, 141*(2), 218-232.
- Spinath, B. (2011). Great pretenders. *Scientific American Mind*, March/April, 32-37.
- Szentagotai, A., & Jones, J. (2010). The behavioral consequences of irrational beliefs. In D. David, A. Ellis & S. J. Lynn (Eds.), *Rational and irrational beliefs. Research, theory and clinical practice* (p. 75-97). New York: Oxford University Press.