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CONTENTS

Research articles

- The impact of perceived support in the workplace on the relationship between consciousness and personal performance** 3
Nicolae Cristea
Steliana Rizeanu
- Maintaining psychological well-being by decreasing anxiety in hospitalized pregnant women** 13
Silvia-Carmen Mikulović
- Emotional intelligence in children and adolescents with attention deficit hiperactivity disorder** 22
Laporta-Herrero Isabel
Latorre-Forcén Patricia
- The relationship between sensations seeking, attachment and work addiction** 31
Mihaela Chraif
Steliana Rizeanu
- Hardiness as a moderator effect of work environment towards job satisfaction** 41
Anas Sihatul Iffah
Bilqis Librizky
Latipun
- Covid-19 pandemic source representation in a sample of romanian adults: a brief report** 50
Alexandra Maftai
Andrei-Corneliu Holman
- The relationship between humor, life satisfaction, emotions and well-being** 57
Steliana Rizeanu
Mihaela Chraif
- Anxious-depressive comorbidity in binge eating disorder in a clinical sample of adolescents** 67
Laporta-Herrero Isabel
Latorre-Forcén Patricia



THE IMPACT OF PERCEIVED SUPPORT IN THE WORKPLACE ON THE RELATIONSHIP BETWEEN CONSCIOUSNESS AND PERSONAL PERFORMANCE

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Abstract

The purpose of the study in this paper is to estimate the impact of perceived support in the workplace on the relationship between consciousness and personal performance. The study aims to observe the behavioral trend of performance when the perceived workplace support is included as mediator, as a third variable. We expect to notice an increase in professional performance when conscientious employees perceive greater workplace support. Our study was based on a sample of 120 people. To test the mediation relationships, we used the macro PROCESS developed by Andrew Hayes. According to the obtained results, the Support based on the possibilities of contact with colleagues effectively mediates the relationship between Conscientiousness, as independent variable, and the dimensions of Personal performance, as dependent variable. Therefore, Support based on the possibilities of contact with colleagues brings a significant contribution to the cohesion of the team, to the quality of interpersonal relations, to increased performance, to workplace comfort and to diminishing the negative effects of stress.

Keywords: *mediator, workplace support, conscientiousness, performance*

1. INTRODUCTION

According to research in the field, organizations should implement strategies based on capitalizing on the skills and on the motivations of conscientious employees.

Conscientious individuals are characterized by status, acceptance and predictability (Bilbie, Bratu, Rizeanu, 2020). Building organizational frameworks

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that enable conscientious people to meet these motivations is essential to maximizing their professional potential. Having a strong sense for responsibility / focus on their goals (Sulea, Filipescu and Fischmann, 2012), conscientious employees are able and determined to channel their energy into work, thus being more involved, and thus increasing their professional performance.

The meta-analysis of personality and performance at work in relation to the level of conscientiousness, highlights that the level of conscientiousness is responsible with prediction of work performance in all occupations (Hassan, Akhtar and Yilmaz., 2016). Kim, Shin and Swanger (2008) demonstrate the significant influence of conscientiousness on work involvement.

Currently, scientific research in the field focuses on testing the effect of potential moderators (stressors, performance) on the relationship among antecedents and employment. Sulea and his collaborators (2012) mention that there is a relevant link between conscientiousness and work involvement, but it is not clear whether this relationship retains its power when employees experience abuse or decreased performance at work.

On the other hand, Chughtai and Zafar (2006) have shown that people characterized by a high degree of work satisfaction are more likely to have higher performance. People characterized by a high level of commitment have the intention to stay in the organization for a long time (Chughtai and Zafar, 2006 apud Darie, 2011), feeling high professional satisfaction (Al-Hussami, 2008 apud Darie, 2011). Work environment is an important factor that can affect their work performance. Also, the degree of compatibility between the employees and their job is an important influencing factor for employees' work performance (Chang et al., 2020) and is defined as the important factor to which individual and environmental characteristics match (Kristof-Brown et al., 2005 apud Chang et al., 2020). The positive influence of employee-job compatibility on the attitudes and behaviors of qualified professionals has been demonstrated, another important factor related to work performance being organizational support (Chang et al., 2020). Research has shown that the degree of work involvement is dependent on employees' perception of high levels of organizational support and of increased privileges (Liao, Joshi and Chuang, 2004 apud Chang et al., 2020).

2. OBJECTIVE AND HYPOTHESES

2.1. SCOPUS AND OBJECTIVE

The purpose of the study in this paper is to analyze the impact of perceived workplace support in the relationship among conscientiousness and personal performance. The study aims to observe the behavioral trend of performance when the perceived workplace support is included as mediator, as a third variable.

We expect to notice an increase in professional performance when conscientious employees perceive greater support in the workplace.

2.2. HYPOTHESES

We propose to study the following hypotheses in this paper:

- 1) Conscientiousness will predict a significant increase in Personal performance and its dimensions, e.g. those associated with Actions directed towards and for the benefit of the organization (OCBO), respectively Actions directed towards work colleagues, in order to help solve their work-related problems (OCBP);
- 2) Perceived workplace support (as a global factor) and its dimensions (Perceived organizational support; Support based on relationships with the colleagues; Support based on the relationship with the superior; Support determined by the possibilities of contact with colleagues) mediate the relationship among Conscientiousness and Personal performance studied at the dimensions level (Actions directed towards and for the benefit of the organization (OCBO), respectively Actions directed towards work colleagues, in order to help solve their work-related problems (OCBP).

3. METHOD

3.1. PARTICIPANTS

The sample used in the study included 120 respondents from Romania (60.8% women and 39.2% men). The tools used for data collection were questionnaires made available in online format, on a friendly interface of a virtual platform - so as to motivate the participants to fill them in. The recruitment and inclusion of participants from the online environment was performed using the snowball technique, which combines individual activity with group activity and involves reducing the number of elements part of a problem or situation, in order to focus on the basics. Participants were assured that data storage and processing will be carried out by respecting their confidentiality.

3.2. MEASURES

Conscientiousness was evaluated using the conscientiousness scale within the Big-Five Personality Inventory, adapted in Romanian by Iliescu et al. (2015), which includes 20 items. *Perceived workplace support* was estimated using two questionnaires, one with a single scale and the second with three scales, as follows. We use the *Organizational support* Scale (8 items) from the questionnaire proposed by Rhoades, Eisenberger and Armeli (2001), translated into Romanian by Iliescu et al. (2015). *Relationships with Colleagues* (9 items), *Relationship with Superiors* (9 items) and *Possibilities of contact with Colleagues* (4 items) are scales which are part of the QEAW, Questionnaire on the Experience and Assessment of Work

developed by Veldhoven and Meijman. *Professional performance* was estimated using the List of Civic Organizational Behaviors - Long Version (20 items) developed by Fox et al. (2012) and translated in Romanian by Iliescu et al. (2012). One can calculate a total score or scores on two dimensions: Actions directed towards and for the benefit of the organization (OCBO) and Actions directed towards work colleagues, in order to help solve their work-related problems (OCBP). The questionnaire includes 15 items for Actions directed towards work colleagues, in order to help solve their work-related problems (OCBP), and 5 items for Actions directed towards and for the benefit of the organization (OCBO).

3.3. METHODOLOGY

Based on the validated data, we ran in SPSS a series of regression models having as independent variable Conscientiousness, and as dependent variable, in turn: Personal performance and, respectively its dimensions, Actions directed towards and for the benefit of the organization (OCBO) and Actions directed towards work colleagues, in order to help solve their work-related problems (OCBP). Thus, the study focused on observing the behavioral trend of performance when the perceived workplace support is included as mediator, as a third variable. We expect to notice an increase in professional performance when conscientious employees perceive higher workplace support. To explain the influence of perceived workplace support in the relationship between conscientiousness and performance, we used the following mediation process (see Figure 1):

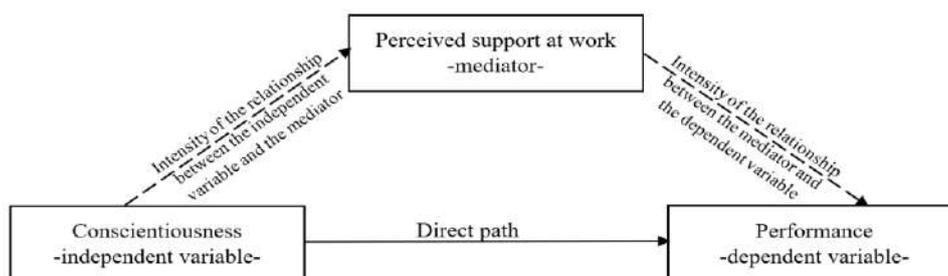


Figure 1. Mediation relationship between conscientiousness and performance

Studying the relationships in the model shown in Figure 1, it is visible that the effect of Conscientiousness, as the independent variable, on Performance, as the dependent variable, is transmitted through two paths. The first path is the direct relationship (called the direct path in Figure 1) between Conscientiousness and Performance. The value associated to the direct effect of the relation represents only a part of the total effect, since in this case a part of the effect on the independent

variable on the dependent variable is transmitted through the mediator variable: independent variable → mediator; mediator → dependent variable. The effect transmitted on the path related to the intensity of the relationship between the independent variable and the mediator is represented by indirect effect (Popa, 2015), and its value is determined as a product of the indices related to the intensity of the relationship between the independent variable and the mediator, as independently of the direct effect of the independent variable on the mediator.

3.4. DATA ANALYSIS

Both for the descriptive/inferential statistics and for testing our hypotheses we used the software SPSS v.23. To test the mediation relationships (Popa, 2015) we used the macro PROCESS v3.5, developed by Andrew Hayes.

4. RESULTS

4.1. DESCRIPTIVE STATISTICS

The information regarding the descriptive analysis of the data at the level of the three considered variables (Conscientiousness, Perceived workplace support, Personal performance) is presented in Table 1.

Table 1. The central tendency (Mean, Median) and SD (standard deviation) for the variables included in the study, calculated on the group of subjects (N = 120)

Variable Dimension	Mean	Median	Standard deviation
1. Conscientiousness	3.07	3.15	0.55
2. Perceived workplace support	2.83	2.79	0.43
2.1. Perceived organizational support	4.71	4.87	1.49
2.2. Support based on the relationships with colleagues	2.29	2.22	0.44
2.3. Support based on the relationship with the superior	2.34	2.22	0.49
2.4. Support based on the possibilities of contact with colleagues	1.97	1.75	0.91
3. Personal performance	3.81	3.93	0.81
3.1. Actions directed towards and for the benefit of the organization (OCBO)	3.84	4.00	0.89
3.2. Actions directed towards work colleagues, in order to help solve their work-related problems (OCBP)	3.79	3.93	0.78

According to the obtained results, Perceived organizational support has the largest influence on Perceived workplace support, with an average of 4.71 \approx 5 that corresponds to the option „Moderate agreement”. In other words, respondents consider that they receive organizational support to an acceptable extent. The standard deviation value of 1.49 shows that scores are quite dispersed around the average, which demonstrates that respondents perceive organizational support quite differently.

4.2. MODEL OF REGRESSION BETWEEN CONSCIENTIOUSNESS AND PERSONAL PERFORMANCE, RESPECTING ITS DIMENSIONS

Information regarding the three estimated prediction models is presented in Table 2. Thus, based on model 1, we can say that Personal Performance is explained in proportion of 10% by Conscientiousness. In model 2, Actions directed towards work colleagues, in order to help solve their work-related problems (OCBP) are explained in proportion of 9% by the predictive variable Conscientiousness. Finally, model 3 estimates that Actions directed towards and for the benefit of the organization (OCBO) are explained in proportion of 10% by Conscientiousness, according to Table 2. Whereas in the three models Conscientiousness predicts with statistical significance ($p < 0.05$) both Personal performance (as a global factor) and its Dimensions, we can confirm the first hypothesis.

Table 2. Regression model between Conscientiousness and Performance (OCBP, OCBO)

Nr. crt.	Dependent variable	<i>B</i>	<i>t</i>	P-value	<i>R</i>	<i>R</i> ²	ΔR^2	<i>F</i> change
1	Personal performance	0.47	3.77	0.001	0.32	0.11	0.10	14.22
2	OCBP	0.33	3.56	0.001	0.31	0.09	0.09	12.73
3	OCBO	0.13	3.91	0.001	0.33	0.11	0.10	15.28

4.3. THE MEDIATION RELATIONSHIP

The results obtained by running the mediation relations in SPSS partially confirm the possibility of mediation between Conscientiousness and Personal Performance. The most effective mediator is represented by Support based on the possibilities of contact with colleagues, one of the dimensions of Perceived workplace support. Table 3 presents the data obtained after mediating the relationship between Conscientiousness and Personal Performance by Support based

on the possibilities of contact with colleagues, one of the dimensions of Perceived workplace support.

Table 3. Results of testing the mediation effect of Support based on the possibilities of contact with colleagues on the considered relationship

Mediator: Support based on the possibilities of contact with colleagues	<i>Coefficient</i>	<i>SE</i>	<i>P</i>	Bootstrap 95%CI
<i>The direct effect of the mediator on the Dependent Variable</i>	1.13	0.36	<.05	[0.42; 1.85]
<i>The total effect of the Independent Variable on the Dependent Variable</i>	0.47	0.12	<.001	[0.22; 0.71]
<i>The direct effect of the Independent Variable on the Dependent Variable</i>	0.48	0.12	<.001	[0.24; 0.72]
<i>The indirect effect of the Independent Variable on the Dependent Variable through the mediator</i>	-0.01	0.02	-	[-0.05; 0.03]

On the other hand, in Table 4 are presented the data obtained after mediating the relationship among Conscientiousness and Actions directed towards work colleagues, in order to help solve their work-related problems (OCBP), one of the dimensions of Personal Performance, by Support based on the possibilities of contact with colleagues, one of the dimensions of Perceived workplace support.

Table 4. Results of testing the mediation effect of Support based on the possibilities of contact with colleagues on the considered relationship

Mediator: Support based on the possibilities of contact with colleagues	<i>Coefficient</i>	<i>SE</i>	<i>P</i>	Bootstrap 95%CI
<i>The direct effect of the mediator on the Dependent Variable</i>	0.88	0.27	≤.001	[0.35; 1.41]
<i>The total effect of the Independent Variable on the Dependent Variable</i>	0.33	0.09	<.001	[0.1; 0.51]
<i>The direct effect of the Independent Variable on the Dependent Variable</i>	0.34	0.08	<.001	[0.16; 0.52]
<i>The indirect effect of the Independent Variable on the Dependent Variable through the mediator</i>	-0.0008	0.002	-	[-0.005; 0.003]

Finally, Table 5 contains the data obtained after mediating the relationship between Conscientiousness and Actions directed towards and for the benefit of the organization (OCBO), one of the dimensions of Personal Performance, by Support based on opportunities to contact colleagues, one of the dimensions of Perceived workplace support.

Table 5. Results of testing the mediation effect of the Support based on the possibilities of contact with colleagues on the considered relationship

Mediator: Support based on the possibilities of contact with colleagues	Coefficient	SE	P	Bootstrap 95%CI
<i>The direct effect of the mediator on the Dependent Variable</i>	0.25	0.10	<.05	[0.04; 0.46]
<i>The total effect of the Independent Variable on the Dependent Variable</i>	0.13	0.03	<.001	[0.06; 0.20]
<i>The direct effect of the Independent Variable on the Dependent Variable</i>	0.14	0.03	<.001	[0.07; 0.21]
<i>The indirect effect of the Independent Variable on the Dependent Variable through the mediator</i>	-0.002	0.007		[-0.019; 0.011]

The direct effect of the Mediation relations of Conscientiousness to all the other three remaining dimensions of Perceived workplace support is statistically insignificant ($b = -0.01$; $p = 0.74 > 0.05$).

Since only Support based on the possibilities of contact with colleagues effectively mediates the relationship between Conscientiousness, as independent variable, and Personal Performance, as dependent variable, studied both globally and in terms of its dimensions (OCBO and OCBP), we can only partially confirm the second hypothesis.

5. CONCLUSIONS

It is superfluous for Perceived workplace support and its dimensions to be in a reciprocal relationship with Conscientiousness, because conscientious workers, ideal partners for employers, to feel appreciated and motivated to get involved in their relationships with their colleagues and with their superiors, to increase both the level of individual performance and the level of organizational performance. The validity of Conscientiousness as a predictor for Performance was also confirmed in the analysis of personality and performance at work in relation to the level of conscientiousness, where the level of conscientiousness appears to be an important predictor of job performance in all occupations (Hassan et al., 2016).

In conclusion, the Support based on the possibilities of contact with colleagues effectively mediates the relationship between Conscientiousness, as independent variable, and the dimensions of Personal performance, as dependent variable. Therefore, Support based on the possibilities of contact with colleagues brings a significant contribution to the cohesion of the team, to the quality of interpersonal

relations, to increased performance, to workplace comfort and to diminishing the negative effects of stress.

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MAINTAINING PSYCHOLOGICAL WELL-BEING BY DECREASING
ANXIETY IN HOSPITALIZED PREGNANT WOMEN

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Abstract

During pregnancy, many transient somatic disorders can occur, more or less lasting, sometimes leading to depressive symptoms, anxiety and relationship difficulties (Rotaru, 2011). Anxiety during pregnancy is estimated to affect between 15 and 23% (Sinesi et al, 2019) of pregnant women and it is associated with an increased risk for a number of negative maternal outcomes and for the further development of the child (Sinesi et al, 2019). Anxiety varies from a normal reaction in an unknown situation to a debilitating pathological condition. In the present research, I studied the decrease in anxiety of hospitalized pregnant women through meditation methods. Anxiety was investigated before and after a meditation exercise program. Anxiety was measured with the Hamilton Scale before the start of the meditation program and one or two months after it began. The results of this research showed that pregnant women with various somatic problems, with high anxiety measured before the exercise program had lower scores on the test for measuring anxiety after completing this program and had a more stable emotional state.

Keywords: *psychological well-being, pregnancy, anxiety, emotional state, meditative techniques*

1. INTRODUCTION

Pregnancy is a time of great biological, psychological and social changes in a woman's life. Preparing for the expectation of a child in the family can be fraught with various concerns and fears regarding fetal health, the physical changes that accompany pregnancy, as well as the fear of birth (Radoš et al, 2015). Pregnancy anxiety is not a rare occurrence and the data suggest that one in four pregnant women has had increased anxiety or some form of anxiety disorder (Grant et al, 2008). Anxiety during pregnancy is estimated to affect between 15 and 23% of women and it is associated with an increased risk for a number of negative maternal outcomes (Sinesi et al, 2019). Antenatal anxiety has consistently been

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shown to be a strong predictor of postnatal anxiety and depression (Austin et al, 2007). It has also been linked to complications of childbirth and child development, including low birth weight, premature births and negative effects on children's neurodevelopmental, cognitive and behavioral outcomes (Sinesi et al, 2019). Negative outcomes in the development of children that are associated with antenatal anxiety include, for example, increased risk of language delay, hyperactivity disorders, attention deficit, and poor emotional regulation (Talge et al, 2007). Other research indicates that one in four pregnant women (24.1%) has at least one pregnancy anxiety. Pregnancy is a period of increased vulnerability to the development of anxiety and depression. Anxiety can be expressed by somatic symptoms. Many researches have highlighted the benefits of meditation on the emotional state of the investigated subjects. The term "meditation", typically used, refers generically to a wide range of practices. The generic use of "meditation" reflects its application in a remarkably wide range of contemplative practices: for example, visualizing a deity, reciting a mantra, visualizing "energy" flowing in the body, focusing attention on breathing, analytical review of arguments, or narratives and various forms of objectless meditations would all be considered "meditation." (Lutz et al, 2007). Meditation "through full awareness promotes the bringing of emotions into conscious attention, the regulation of these emotions, tolerance of deep sadness, awareness of one's own values and personal needs and the orientation of action according to all this" (André, 2019). The most popular schools in Japan, called Bompu-zen, through meditation, aimed at restoring physiological balance, mental balance and, in general, at improving health (André, 2019). The process of meditation, as well as its effects, is a subfield of growing neurological research. (Sequeira, 2014) Modern scientific techniques and tools, such as fMRI and EEG, have been used to study how regular meditation affects individuals by measuring brain changes and body changes (Tang et al, 2013). According to Smith (Iqbal et al, 2014), the term meditation refers to "a family of mental exercises that are generally involved in calming thought and attention". It is known that meditation plays a significant role in improving psychological disorders, and research suggests using meditation to reduce the level of depression and anxiety. Here are some research studies on the effects of meditation or various meditation exercises on the body:

1. On a sample of 174 adults in a clinical program to reduce stress based on Mindfulness (MBSR) the levels of mindfulness, medical and psychological symptoms, perceived stress and psychological well-being were investigated (Carmody et al, 2008). This program consisted of people facing problems related to stress, illness, anxiety, chronic pain and it was conducted in 8 sessions. The results showed increases in attention and well-being, decreases in stress and symptoms. Increases have been found in improved psychological functioning, suggesting that the practice of mindfulness meditation leads to reduced symptoms and improved well-being (Carmody et al, 2008). The participants involved in the study were

individuals enrolled in the MBS program at the University of Massachusetts. Each group included about 20-25 participants. Self-reported data for program evaluation and participant information were collected before the start and end of each 8-week group. 206 people from nine groups started the program. Of these, 174 participants (85% of participants) provided both pre- and post-MBSR data. The average age was 47.05 years, 63% were female. Marital status was: married (65%), cohabiting (9%), single 12%, separated, divorced or widowed 9%, and 5% did not answer this question. No significant differences were found for demographic variables (age, sex, marital status, participation in psychotherapy) or for any of the dependent variables, measured at pre-treatment (medical and psychological symptoms, perceived stress, well-being, attention (Carmody et al, 2008). Variables evaluated in both pre- and post-MBSR were attention, medical and psychological symptoms, perceived stress, and psychological well-being. Data about home practice were obtained from a mindfulness practice journal. Participants placed their written diaries in a closed box, built for this purpose that was in the classroom each week. The practice of mindfulness at home was assessed using a folder of seven color-coded journals. Psychological symptoms were assessed with the Symptom Inventory Brief (SIB). A global severity index (GSI) was calculated. Studies have shown significant reductions in GSI, anxiety, and depression associated with program participation (Carmody et al, 2008). Medical symptoms were assessed with the Symptom Checklist (MSCL) and perceived stress was assessed with Perceived Stress Scale (PSS). Participation in MBSR has been associated with significant decreases in PSS scores (Carmody et al, 2006). The results were: scores on all facets of mindfulness increased significantly before the end of the program. Psychologically well-being increased, medical and psychological symptoms and perceived stress levels decreased significantly. Research into the practice of mindfulness at home suggests that practice time for formal meditation (body scanning, yoga, etc.) is associated with many beneficial changes. The practice of body scanning has been significantly linked to increased psychological well-being, decreased sensitivity and interpersonal anxiety.

2. Another research (Iqbal et al, 2014) was conducted on 60 subjects of both sexes, aged between 18 and 55 years divided into two groups, experimental group and control group. The average age of the experimental group subjects was 35.46, and the average age of the control group subjects was 31.26. There were 11 male and 19 female subjects in the experimental group and 12 male and 18 female subjects in the control group. In the experimental group, from the point of view of schooling, the number of subjects was: students- 3, graduate subjects -20 and subjects with postgraduate studies -7, respectively in the control group, 6, 11 and 13. Anxiety was measured with the scale Sinha and Sinha anxiety, administered to both groups before and after meditation training. The post-meditation evaluation was done after 21 days of dynamic meditation training. Results show that there was a significant difference between the two groups in the post-evaluation scores, the

anxiety score of the experimental group was lower than in the control group. This shows that meditation has significantly helped reduce the anxiety of the experimental group. Mindfulness-based stress reduction (MBSR) has been shown to be effective in improving the clinical profile of social symptoms of anxiety, depression, self-esteem in adults with social anxiety disorder (SAD).

3. Recently, there has been a particular interest in researching the therapeutic benefits of meditation in psychological disorders and the results have been significant (Sharma et al, 2017). Much research has been done on different meditation techniques. This research was done on Anapanasati meditation, a form of Mindfulness meditation. Anapanasati meditation consists of a simple observation of one's own breathing, ie inhalation and expiration (Sivaramappa, 2019). In this study, the effect of meditation on individuals with moderate anxiety, evaluated with an anxiety scale, was studied. The study involved 112 subjects, aged between 20 and 65 years. Participants were divided into two groups, one experimental and one control. Each group had 56 participants. The STAI Inventory was used. Participants in the experimental group did Anapanasati meditation six days a week for six months under the supervision of experts, one hour a day, along with routine activities. At the control group, there was no intervention. It was ensured that there was no interaction between the groups throughout the six-month period. The tests were administered on the first and last day of the study. Results: The experimental group showed a significant reduction in the STAI score after the intervention, while the STAI score increased in the control group of stress parameters and the integral area of health parameters measured by the Electro Photonic Imaging (EPI) technique were significantly reduced with meditation (Deo et al, 2015).

Previous studies on mindfulness meditation have established the effectiveness of meditation in reducing the level of anxiety and depression (Sivaramappa, 2019). The results of the study highlight the importance of meditation in reducing the level of anxiety measured by STAI and confirm the effectiveness of Anapanasati meditation. An in-depth study is needed to understand the effectiveness when anxiety is comorbid with other physiological and psychological disorders.

2. OBJECTIVE AND HYPOTHESES

2.1 OBJECTIVES

The established goal was to decrease the level of anxiety in pregnant women after a program of pre-established meditation exercises, exercises based on focusing on a stimulus, focusing on breathing, awareness of body function,

awareness of body organs, focus on the fetus, awareness of the relationship with this, creative meditations.

2.2. HYPOTHESIS

Hypothesis: We estimate that there will be statistical significance between the two stages of pre- and post-intervention testing in the intervention program to reduce anxiety for the 30 pregnant women.

It is assumed that there is a positive correlation between anxiety and meditation exercises. We assumed that decreasing anxiety leads to relaxation of the whole body, self-regulation of body functions, optimization of body functionality, increased adaptability, better management of conflicting situations.

3. METHOD

3.1. PARTICIPANTS

This research involved 30 pregnant women who were hospitalized with the diagnosis of threat of abortion or threat of premature birth aged 27-39 years old. Average age - 33 years old.

Inclusion criteria - included patients who had clinically significant scores after applying the anxiety test.

Exclusion criteria - patients with a declared psychiatric diagnosis were excluded.

There was no control group because almost all patients wanted to work on these exercises.

3.2. INSTRUMENTS

The Hamilton Anxiety Scale is one of the first instruments for measuring anxiety and was developed by Hamilton (1959) to assess the severity of anxiety symptoms. It provides an overall assessment of anxiety and identifies both mental and somatic symptoms. The scale has proven useful over time and can be used to detect symptoms of anxiety or assess their severity.

3.3. PROCEDURE

All patients were hospitalized for imminent miscarriage or threat of premature birth. They were evaluated with the Hamilton Scale before the start of the exercises and a month or two after the start of the exercises. They participated in the meditation program that included exercises to optimize the functioning of the body and maintain emotional balance.

Psychological comfort was defined as the situation in which patients reported reduced anxiety, decreased irritability, increased tolerance to frustration, decreased emotional lability (no more crying), reduced insomnia, reduced physical pain, decreased contractions, decreased criticism. Demographic variables were not correlated because all participants were women with the same marital status.

4. RESULTS

To validate the pair sample hypothesis, the average ranges of the initial distributions and those obtained by re-testing by applying the Wilcoxon nonparametric test were compared. The results obtained from the Wilcoxon test indicate the presence of statistical significance between the two stages: $p < 0.001$, $Z = -4.789$. The average for pre-intervention is 19.7 and for post-intervention 6.47. This is due to the fact that, between the two tests, the intervention program was effective and the level of anxiety was significantly reduced. Thus, the declared purpose of the intervention, ie through these exercises, the decrease of anxiety that generates the relaxation of the whole body is achieved, and it leads to self-regulation of body functions, increased adaptability, better management of conflict situations, etc. It has been validated. The statistical results validated the decrease of anxiety and the declared state of pregnant women was characterized by decreased irritability, increased tolerance to frustration, decreased emotional lability, acceptance of the existential situation.

NPar Tests

Descriptive Statistics

	N	Average	Std. Deviation	Minimum	Maximum
Pre-intervention	30	19.70	8.056	8	37
Post-intervention	30	6.47	2.543	4	12

Wilcoxon Signed Ranks Test

Ranks

		N	Average Rank	Sum of Ranks
Post-intervention - Pre-intervention	Negative Ranks	30 ^a	15.50	465.00
	Positive Ranks	0 ^b	.00	.00
	Ties	0 ^c		
	Total	30		

a. Post-intervention < Pre-intervention

b. Post-intervention > Pre-intervention

c. Post-intervention = Pre-intervention

Test Statistics^a

Post-intervention - Pre-intervention	
Z	-4.789 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Effect size calculation in accord with formula $r = \frac{z}{\sqrt{N}}$ generate a large effect size (0.87). Thus, one can see, once again, the effects of the intervention program.

5. CONCLUSIONS

Despite the limitations of the literature, there are results that suggest that exercise programs based on different meditation exercises help reduce anxiety. Studies have shown benefits against a number of both physical and mental conditions, including irritable bowel syndrome, fibromyalgia, psoriasis, anxiety, depression and post-traumatic stress disorder (Powell, 2018). It has been found that the practice of mindfulness meditation leads to reduced symptoms and improved well-being. These findings suggest that mindfulness modulates neural responses (LPP) at an early stage of affective processing and may promote healthy emotional functioning (Tang et al, 2013). Thus, clinicians should consider and discuss with their patients the role that such an exercise program could play in addressing anxiety and psychological stress. MBSR is effective in reducing stress, depression, anxiety and improving the quality of life of healthy people; however, more research is needed to identify the most effective elements of MBSR (Khoury et al, 2015). The research presented obtained effective results in reducing anxiety and improving psychological comfort, through the results obtained at the Hamilton Scale and through the observable and declared behaviors of patients. The limitations of this research derive from the non-existence of a control group, because all hospitalized pregnant women wanted to work on this method and from the presence of the drug treatment that was administered throughout the hospitalization period. It is important to inform pregnant women about the possibility of using this psychotherapeutic technique as an adjunct to drug treatment. It is desirable that physicians caring for pregnant women with various health problems perform anxiety screening and take it into account in their treatment of reducing anxiety, which may increase compliance with treatment.

Assessment of individual functioning is particularly important for pregnant women with dysfunctional pregnancies as well as for people in difficulty in general. Understanding several areas of functioning, evaluating the characteristics of people / patients in relation to others, but also in relation to themselves, based on appropriate screening will bring progress in their effective treatment. It is important to identify women at risk for anxiety / depression in early pregnancy to reduce the clinical implications. Recognition and management of anxiety in pregnant women may be of interest for the prevention of postnatal depression.

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EMOTIONAL INTELLIGENCE IN CHILDREN AND ADOLESCENTS WITH ATTENTION DEFICIT HIPERACTIVITY DISORDER

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Abstract

Today there is minimal scientific literature that examines whether people diagnosed with attention deficit hyperactivity disorder (ADHD) have lower emotional intelligence (EI) than other subjects without this type of pathology. The main objective of the study is to compare EI, defined according to the theoretical Bar-On model, in a group of children and adolescents with ADHD versus a control group. The sample is made up of 72 subjects (59.7% men and 40.3% women) with ages between 7 and 17 years ($M = 11.85$; $SD = 2.97$): 32 patients diagnosed with ADHD who went to a Child-Youth Mental Health Unit, and 40 subjects who functioned as a control group and presented the same sociodemographic characteristics of the study sample. All of them completed Bar-On and Parker's Emotional Quotient Inventory Youth Version (EQ-i: YV). The results indicated that there are significant differences between ADHD group and control group ($t_{(gl)} = -3.46_{(70)}$; $p < .01$). Children and adolescents with ADHD presented lower scores in interpersonal skills ($t_{(gl)} = -3.27_{(70)}$; $p < .01$) and adaptability ($t_{(gl)} = -3.58_{(70)}$; $p < .01$). These data suggest the need to promote the development of EI skills in patients diagnosed with ADHD, as well as to carry out interventions related to EI from an early age with a preventive character in the school environment.

Keywords: attention deficit hyperactivity disorder, emotional intelligence, children, adolescents.

1. INTRODUCTION

Attention deficit hyperactivity disorder (ADHD) is a disorder characterized by symptoms of inattention and/or hyperactivity/impulsivity. It is one of the neurobiological disorders with the highest prevalence in the infant-juvenile population (Polanczyk et al., 2015). The global prevalence of this disorder in Spain is estimated at around 6.8%, being higher in men than in women (González Collantes et al., 2015). This disorder also has three variants: predominant presentation with

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inattention, hyperactive/impulsive and combined, according to DSM-5 criteria (American Psychiatric Association, 2013).

The patients diagnosed with ADHD, in addition to presenting the diagnostic criteria collected in the different manuals (cite DSM-5) and which are fundamentally related to executive functions and motor disorders (Silverstein et al., 2020), present other difficulties that cause a great impact in the different areas of operation of the minor and in different contexts. One of these difficulties would be the low ability of these children to approach and modulate their emotions with a certain purpose (Quintero et al., 2017).

From this point of view, we consider that emotional intelligence (EI) could be a good theoretical framework to advance in this area of knowledge. EI encompasses observable abilities - EI ability - (Mayer et al., 2008) and subjective self-perceptions - EI trait - (Petrides & Furnham, 2001). On the one hand, the Mayer and Salovey (2001) model describes EI as a set of skills such as perception, use, understanding and emotional management. On the other hand, the theoretical model of Bar-On (Bar-On & Parker, 2000) defend the combination of mental abilities with other competences that are acquired through experience. It defines EI as a set of emotional, personal and interpersonal capacities that influence the total capacity of the individual to face their demands and the pressures of the environment. They explain EI in five dimensions: self-awareness, interpersonal relationships, adaptation to the environment, stress management, and general mood. Thus, EI is an important factor in determining the capacity for success in life and directly influences emotional well-being. According to this model, “emotionally intelligent people are capable of recognizing and expressing their own emotions, possess positive self-esteem, and are able to update their skill potential and lead happy lives. Likewise, they have great facility to understand the way in which others feel and to maintain satisfactory interpersonal relationships, without depending on others. They are optimistic, flexible, realistic and successful people solving problems and dealing with stress without losing control” (Bar-On, 1997, pp. 155-156). This will be the theoretical framework on which this study is based.

EI increases with age until the beginning of adulthood (Kong et al., 2017), and is generally higher in women than in men (Goldenberg et al., 2006). However, there are studies that report higher EI in men (Kong et al., 2017) or do not report gender differences (Barahona & Alegre, 2016; Elella et al., 2017).

Although it is assumed that people with ADHD have marked difficulties in controlling and expressing their emotions, the truth is that there is little scientific literature regarding the relationship between ADHD and EI in children and adolescents (Yapça & Taman, 2019), and that there is inconsistent. Conducting a literature review on the subject, previous population studies indicate that the EI trait turned out to be a moderate to strong predictor of ADHD symptoms in a study conducted with a community sample of adolescents and young adults (Kristensen et al. 2014). The stress management and adaptability dimensions uniquely predicted

both inattention, hyperactivity and impulsivity. Craparo et al. (2015) concluded that the group of early adolescents with symptoms of inattention presented lower levels of total EI, adaptability and general mood. Regarding the studies with clinical population in children and adolescents, taking into account the theoretical model of Bar-On, Barahona and Alegre (2016) found that adolescent students diagnosed with ADHD presented a greater intrapersonal capacity and a positive impression than those without ADHD; not finding differences in the other dimensions of EI. Climie et al. (2017), reported that children with ADHD obtained lower scores in emotional understanding and in the interpersonal and adaptation subscales.

Therefore, today there is little scientific evidence that confirms or discards that children and adolescents affected by ADHD have a lower EI. We consider that the confirmation of this hypothesis would highlight the need to apply more specific therapeutic interventions directed towards all those aspects that make up EI and that could ultimately facilitate better socio-emotional adaptation and a better prognosis of the disorder. In this way, new therapeutic strategies could be implemented that are perfectly compatible with those already known and that have demonstrated efficacy such as pharmacological treatment (Boland et al., 2020) or cognitive behavioral therapy (Knouse et al., 2017).

2. OBJECTIVE AND HYPOTHESES

2.1. OBJECTIVE

The main objective of this study is to compare EI, defined according to the theoretical Bar-On model, in a group of children and adolescents with ADHD versus a control group.

2.2. HYPOTHESES

Children and adolescents with ADHD have less EI than children and adolescents without ADHD.

3. METHOD

3.1. PARTICIPANTS

The total sample consisted of 72 subjects aged between 7 and 17 years ($M = 11.85$; $SD = 2.97$), living in the same Spanish region. 59.7% (43/72) of the sample were boys and 40.3% (29/72) girls.

The clinical sample was made up of 32 patients (44.4% of the total sample) who attended on an outpatient Child-Youth Mental Health Unit, belonging to the public health service, in a region of Spain. The mean age of the control group was 10.88 ($SD = 2.52$). 21.9% (7/32) were girls and 78.1% (25/32) boys. 71.9% (23/32)

were children (from 7 to 12 years old) and 28.1% (9/32) were adolescents (from 13 to 18 years old).

The control group was composed by 40 students (56.6% of the total sample) who attended a public school located in the same region as the Child-Youth Mental Health Unit. They were studying from 4th of Primary School to 1st of Bachelor. The mean age of the control group was 12.62 ($SD = 3.11$). 55% (22/40) were girls and 45% (18/40) boys. 50% (20/40) were children (from 7 to 12 years old) and the other 50% (20/40) were adolescents (from 13 to 18 years old).

3.2. INSTRUMENTS

As a psychometric evaluation instrument, we used the Emotional Quotient Inventory Youth Version (EQ-i: YV) by Bar-On and Parker (2018). Adapted to the Spanish population by Bermejo García et al. (Bar-On & Parker, 2018). The inventory is specifically designed for children and teens ages 6 to 18. It consists of 60 statements on a 4-point polytomous scale (1 = never happens to 4 = always happens to me). It evaluates the total emotional intelligence from four scales: intrapersonal (self-knowledge and emotional self-expression of the evaluated person); interpersonal (social awareness and interpersonal relationship, ability to have satisfactory relationships with other people); adaptability (ability to manage change, flexibility and effectiveness to resolve conflicts), and stress management (ability to manage and self-regulate emotions in stressful situations). It also adds 3 scales: general mood (ability to have a positive attitude towards life), positive impression (excessively favourable perception of the person about herself) and inconsistency (discrepancy in responses to similar items). The Spanish version of the questionnaire has an adequate internal structure and reliability (Cronbach's $\alpha = 0.77 - 0.86$) (Sáinz-Gómez et al., 2014).

3.3. PROCEDURE

To select the clinical sample, the following inclusion and exclusion criteria were previously established: 1) meet the diagnostic criteria for ADHD according to DSM-5 (American Psychiatric Association, 2013), 2) be between the ages of 7 and 17 years, 3) receive psychological/psychiatric treatment in the Infant-Juvenile Mental Health Unit during the last 6 months, 4) not show a comorbid psychiatric diagnosis, and 5) not present a limit intelligence or intellectual disability. The clinical sample was obtained by consecutive attendees. The diagnosis was established by the clinical psychologist and/or psychiatrist of the Unit, through clinical interviews with the patient, the parents or caregivers of the patient, and obtaining the appropriate school information, from the centres or activities that they deemed appropriate. The clinical psychologist or psychiatrist was in charge of providing the study information

and obtaining informed consent signed by parents or caregivers of the children and adolescents.

Regarding the control group, the selection of the public school in the same Spanish region was carried out randomly. After obtaining the authorization of the directors, the school counsellor was in charge of explaining and providing the study information and their willingness to participate in it. The following inclusion and exclusion criteria were followed: 1) students who attended academic courses between 4th Primary and 1st Bachelor and 2) who had not received any psychiatric diagnosis throughout their lives and who did not go to any Health Unit Mental child-youth or private psychological/psychiatric centre. The parents or caregivers of the participants signed the informed consent, before the students completed the inventory.

The results of the inventory together with the information pertinent to the diagnosis, sex, age and school, were collected by assigning a code to each patient so that the confidentiality of the information and their anonymity were fully guaranteed. All the information obtained was processed in accordance with the provisions of Organic Law 3/2018, of December 5, on the Protection of Personal Data and guarantee of digital rights.

3.4. STATISTICAL ANALYSIS

The data were processed using the statistical package for Windows Statistical Package for the Social Sciences (SPSS), version 19. Descriptive statistics and a multiple Student *t* test were performed to determine possible differences between groups. A statistical significance limit of $p < .05$ was used for all statistical analyzes.

4. RESULTS

First, a descriptive analysis was performed, obtaining the means and standard deviations of both groups for the overall EI score and for each of its dimensions (interpersonal and intrapersonal ability, adaptability and stress management). Next, a multiple Student *t* test were determined between both groups (ADHD group vs. control group). As observed in Table 1, there are statistically significant differences between the two groups in interpersonal ability ($t_{(gl)} = -3.27_{(70)}$; $p < .01$), adaptability ($t_{(gl)} = -3.58_{(70)}$; $p < .01$) and total EI ($t_{(gl)} = -3.46_{(70)}$; $p < .01$). See Table 1.

Table 1
Descriptives of EQ-i: YV scores and comparisons between groups

EQ-i: YV scale	CONTROL GROUP	ADHD GROUP	$t_{(gl)}$
	<i>M (SD)</i>	<i>M (SD)</i>	
	Interpersonal skill	39.05 (3.91)	

Intrapersonal skill	13.83 (3.22)	14.25 (4.69)	.46 ₍₇₀₎
Adaptability	29.65 (4.41)	25.03 (6.51)	-3.58 ₍₇₀₎ **
Stress management	28.50 (4.86)	30.68 (5.45)	-1.77 ₍₇₀₎
EI Total	147.75 (17.02)	160.40 (14.00)	-3.46 ₍₇₀₎ **

Note. EQ-i: YV = Emotional Quotient Inventory Youth Version; ADHD = Attention Deficit Hyperactive Disorder.

* $p < .05$. ** $p < .01$. *** $p < .001$.

5. DISCUSSION AND CONCLUSIONS

The main objective of the study was to compare EI, defined according to the theoretical Bar-On model, in a group of children and adolescents with ADHD versus a control group. The results indicate that the starting hypothesis is fulfilled, since children and adolescents with ADHD show lower total IE than the control group. They present less interpersonal capacity and adaptability than their peers without ADHD. These findings are in line with the previous study by Climie et al. (2017), and against the investigation of Barahona and Alegre (2016).

Following Barkley (2005), children with ADHD are expected to have high emotional impulsivity; that is, they present their primary emotions more quickly and with great difficulty in inhibiting them. This explains, among other things, that their emotional expression is more intense and maladaptive compared to the rest of the children. With the same level of development, children with ADHD express more primitive and immature emotions, being equally extensive for positive and negative emotions (Barkley, 1999), so that the latter interfere to a greater degree in the interpersonal sphere and in their ability adaptation to the environment.

Among the limitations of the study, it should be noted that we have used non-probability sampling when selecting the sample, so that not all members of the population have the opportunity to participate in the study. It is also necessary to refer to the disproportionate number of women and men in the ADHD group (78.1% boys vs. 21.9% girls). Another limitation would correspond to the time of applying an inventory (EQ-i: YV), whose estimated completion time is close to 30 minutes, for children and adolescents with ADHD. Factors such as fatigue, lack of motivation, or lack of understanding of the statements can generate erroneous or false interpretations. We do not rule out that the same may have occurred in our case taking into account that it has been applied to subjects with an impulsiveness and inattention component. However, far from saving these possible errors, we believe that they are part of the intrinsic characteristics of the evaluation of children and adolescents with ADHD. And finally, comment that we did not take into account the ADHD subtypes (predominant presentation with inattention, hyperactive/impulsive and combined) that the study participants had.

One of the future lines of research would be to determine if there are differences depending on the ADHD subtype in terms of IE. Previous studies such as that of Kristensen et al. (2014) suggest discrepancies between the different subtypes and their relationship with EI, such as that adaptability is more significantly correlated with inattention than with hyperactivity symptoms. And that impulsiveness and hyperactivity traits can affect reduced interpersonal capacity and adaptability. Furthermore, Elella et al. (2017) propose that the combined subtype shows the lowest scores in emotional management, regulation and repair. Another line of research could be to find out if these differences are maintained over time, for example, by conducting longitudinal studies of children and adolescents with ADHD. Or by replicating this same study in clinical samples from adults with ADHD.

In conclusion we can say that the findings of this study reveal that ADHD patients, regardless of their presentation, have a lower EI than subjects without this pathology. Subjects affected with ADHD have a lower ability in interpersonal relationships and a lower ability to adapt to the environment compared to their peers. These data highlight the need to promote the development of certain EI skills and competencies in patients diagnosed with ADHD using specific therapeutic strategies perfectly compatible with those already validated and which have demonstrated therapeutic efficacy. They also highlight the need to implement interventions that are aimed at promoting adequate EI from an early age and in the different contexts in which the child is involved, including the school environment.

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THE RELATIONSHIP BETWEEN SENSATIONS SEEKING, ATTACHMENT AND WORK ADDICTION

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Abstract

The study highlights the importance of attachment and sensation seeking dimensions in predicting the work addiction. The objectives focus on evidencing either the possible bivariate correlations between attachment, sensation seeking and work addiction dimensions or the prediction of the work addiction by the attachment and sensation seeking. The participants were a group of approximately 19 people aged between 21 and 61 ($M=41.47$; $S.D.=11.56$). They completed the Google-docs form after they read the instructions and the ethical consent. The instruments are: the Arnett Inventory of Sensation Seeking (Arnett, 1994), Dutch work addiction scale items (Schaufeli, van Wijhe, Peeters & Taris, 2011) and The Attachment scale (O'Reilly & Chatman, 1986). The results evidence that attachment predicts the work addiction represented by the tow dimension: Work in excess and Compulsive work. Also the Intensity dimension of the Sensation Seeking scale predicts the Compulsive work ($p<.05$).

Further studies should be focused on relationship between workaholic, sensation seeking and work performance.

Keywords: Work in execs, Compulsive Work, Sensation seeking, Attachment.

1. WORKAHOLIC BEHAVIOR RELATED WITH ATTACHMENT AND SENSATION SEEKING

Van Wijhe, Peeters, Schaufeli & Ouweneel (2013) conducted a study regarding the employee recovering from either workaholic or non-workaholic experience. The authors applied the Dutch Work Addiction Scale (Schaufeli, Shima-zu, & Taris, 2009) and found out that for the workaholics employee, negative emotions play an important role in work recovery. Furthermore, the authors find out that there are

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strong relationships between daily recovery experience and the next morning positive emotions.

Andreassen, Hetland & Pallesen (2013) were interested to find out the psychometric proprieties of three scales measuring workaholic and work addiction: the Workaholism Battery (WorkBAT), the Work Addiction Risk Test (WART) and the Dutch Work Addiction Scale (DUWAS). The authors applied the cross-validation and find out low correlation scores highlighting that the instruments do not measure the same constructs. Furthermore, the test-retest reliability evidenced that the scores are stable after 24-30 months application. The limitations of the study were the culture differences, conceptual validity and meaning of the constructs and lack of linguistic and scalar equivalence.

Van Wijhe, Peeters, Schaufeli & van den Hout (2011) conducted a study focused on the relationship between the workaholic and work engagement. In the other words the authors were interested to evidence how workaholic and engages in work employee are determined to work in excess. The sample was a number of 173 employee and the instruments were Dutch Work Addiction Scale (DUWAS) and Utrecht Work Engagement Scale (Schaufeliet al., 2006). The findings highlighted that workaholic is related with negative mood and work engagement with positive mood. Di Stefano & Gaudiino (2018) were interested to evidence the effects of workaholic and work engagement. The authors highlighted that workaholic represents addicted to work as pathological behavior and work engagement represents a positive relation with the work and healthy behavior. Using the SEM the results evidenced the quite contrary expected effects.

Massah, HoseinSabet, Doostian, A'zami & Farhoudian (2014) highlight that sensation-seeking and coping strategies may predict drug addiction in high school students.

Zhao, Xu, Ding, Song, & Zhao (2019) were interested to study the relationship between the alcohol and tobacco consume and sensation seeking. The authors introduced the parental psychological control as regulatory effect. The results highlighted that sensation seeking had effects on the tobacco and alcohol use and parental behaviour control cannot influence the relationship between sensation seeking and the use of tobacco and alcohol (Zhao et al., 2019).

Observing that that most studies relate addiction in work with sensation seeking and workaholic with work engagement, the present study is focused highlighting possible relationships between work addiction, sensation seeking and work engagement the attachment scale. Furthermore, most of the studies use the work addiction scale measuring the concept of workaholic (Dutch Work Addiction Scale (DUWAS)).

Nevertheless, if the addictions mentioned are related with sensation seeking facets, and the work addiction may be related with the sensation seeking.

2. OBJECTIVE AND HYPOTHESES

2.1. OBJECTIVE

The objectives of the research:

1. To highlight possible correlations between the variables attachment, compulsive work, work in excess, novelty and intensity.
2. To evidence that novelty as sensation seeking dimensions predicts the work in excess tendency.
3. To evidence that novelty as sensation seeking dimensions predicts the compulsive work tendency.
4. To evidence that attachment predicts the work in excess tendency.
5. To evidence that attachment dimensions predict the compulsive work tendency.

2.2. HYPOTHESES

The research hypotheses are the followings:

-Hypotheses for the bivariate correlation

1. There is a positive statistically significant correlation between the attachment and compulsive work.
2. There is a positive statistically significant correlation between attachment and work in excess.
3. There is a negative statistically significant correlation between novelty and compulsive work.
4. There is a positive statistically significant correlation between intensity and compulsive work.
5. There is a positive statistically significant correlation between novelty and work in excess.
6. There is a negative statistically significant correlation between intensity and work in excess.
7. There is a negative statistically significant correlation between attachment and novelty.
8. There is a negative statistically significant correlation between attachment and intensity.

-Hypotheses for the predictive models

9. Intensity as sensation seeking dimension predicts the compulsive work.
10. Novelty as sensation seeking dimension predicts the compulsive work.
11. Novelty as sensation seeking dimension predicts the work in excess.
12. Intensity as sensation seeking dimension predicts the work in excess.

13. Attachment predicts the compulsive work.
14. Attachment predicts the work in excess.

3. METHOD

3.1. The participants

The participants were a group of approximately 19 people aged between 21 and 61 ($M=41.47$; $S.D.=11.56$), both females and males from different professional backgrounds. They responded by filling out a Google docs document form between 27.08.2020 and 30.08.2020.

3.2. The instruments

1. The Arnett Inventory of Sensation Seeking - AISS (Arnett, 1994). The inventory is structured on two dimensions indicating the risk preferences and is composed from 20 items. Arnett underlined that the sensation seeking represents the need for novel and intense stimulation (Arnett, 1994). The internal consistency of the two dimensions of the AISS inventory were between .81 and .87. The original version was composed on items measured on a 4 points scale from 1- very low to 4 very high. The application version used the same items on a five points Likert scale from 1 very low to 5-very high.

2. Dutch work addiction scale items (DUWAS) short version (Schaufeli, van Wijhe, Peeters & Taris, 2011) consist in two dimensions, each one of 5 items. The dimension are: work in excess and compulsive work. The original questionnaire is structured on a 4 points scale from low-1 to high-4. The application version is structured on a 5 points Likert scale from 1-very low ti 5-very high. Balducci, et al. (2015) conducted a study regarding the psychometric properties of the Italian a Dutch versions of the DUWAS scale. Del Libano (2010) completed a study regarding the validity of the scale and no difference from the Dutch version were found.

3. The Attachment scale (O'Reilly & Chatman, 1986) was selected from the Identification and Internalization subscale (the first 6 items). The authors conducted two studies with employee and the findings highlighted the importance of Attachment in explaining the organizational commitment.

Alpha Cronbach Coefficient values between .86 and .91 according Harris, Hirschfeld, Field, & Mossholder (1993), Sutton & Harrison (1993) and Martin & Bennett (1996).

3.3. Procedure

The instruments were applied on-line using document Google-docs. The instruments items were measured on 5 points Likert scale from 1- very low to 5-very high. The Ethical code and GDPR legislation were respected. In the beginning of the items application the participants were informed about the study, the ethics and the instructions: “Hello, please complete this questionnaire. Completing this questionnaire represents your acceptance to participate in the study and your agreement that the completed data be used for scientific purposes and that the research be published in a scientific journal. We mention that anonymity, ethical conditions in research and GDPR are maintained. Thank you! “

The participants were informed about the research consent and also about the anonymous identity.

3.4. The design

In order to test the regression hypotheses, the variables were the followings:

- Independent variables: novelty, intensity, attachment.
- Dependent variables: work in excess and compulsive work.

4. RESULTS

In table 1 can be seen the Descriptive statistics for the variables: Novelty, Intensity, Work in excess, Compulsive work and Attachment.

Table 1. Descriptive statistics

variable	Mean	Std. Deviation
Novelty	34.26	5.226
Intensity	27.42	6.677
Work in excess	14.73	4.147
Compulsive work	11.42	5.284
Attachment	20.21	5.874
N	19	

Table 2. Correlations

novelty		Novelty	Intensity	Work in excess	Compulsive work	Attachment
Novelty	Pearson Correlation	1	.648**	-.327	.086	-.317
	Sig. (2-tailed)		.003	.171	.725	.186
	N	19	19	19	19	19

Intensity	Pearson Correlation	.648**	1	.042	.689**	.194
	Sig. (2-tailed)	.003		.863	.001	.425
	N	19	19	19	19	19
Work in excess	Pearson Correlation	-.327	.042	1	.588**	.545*
	Sig. (2-tailed)	.171	.863		.008	.016
	N	19	19	19	19	19
Compulsive work	Pearson Correlation	.086	.689**	.588**	1	.686**
	Sig. (2-tailed)	.725	.001	.008		.001
	N	19	19	19	19	19
Attachment	Pearson Correlation	-.317	.194	.545*	.686**	1
	Sig. (2-tailed)	.186	.425	.016	.001	
	N	19	19	19	19	19

Applying the bivariate correlation Pearson test the following results has been obtained (Table 2):

There are statistically significant positive correlation between the variables: Intensity and novelty ($r=.648$; $p<.001$), Compulsive work and Intensity ($r=.689$; $p<.01$), Work in excess and Compulsive work ($r=.588$; $p<.01$), Work in excess and Attachment ($r=.545$; $p<.01$), Compulsive work and Attachment ($r=.686$; $p<.01$).

Testing the correlation hypotheses the following hypotheses were confirmed:

- There is a positive statistically significant correlation between the Compulsive work and Intensity of the sensation seeking.
- There is a positive statistically significant correlation between the Work in excess and Compulsive work.
- There is a negative statistically significant correlation between the Work in excess and Attachment.
- There is a positive statistically significant correlation between the Compulsive work and Attachment.

The hypotheses was statistically significantly confirmed at the $p<.05$ threshold. The other correlation hypotheses were not confirmed ($p>.05$).

The hypotheses regarding the predictive models (hypotheses 9-14) were tested using the simple linear regression model.

In table 2 can be see the R and R Square values for the first prediction model corresponding to the hypothesis no.9 “Intensity as sensation seeking dimension predicts the Compulsive work”.

Table 3. – Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.689 ^a	.475	.444	3.94085

- a. Predictors: (Constant), Intensity
b. Dependent Variable: Compulsive work

Analyzing the Unstandardized Coefficients and the statistical significance of the predictor Intensity for the regression model the hypothesis has been confirmed.

The predictor Intensity was statistically significant for $p < .05$ and the regression equation is the following:

$$\text{Compulsive work} = -3.530 + .2545 * \text{Intensity}$$

Testing the hypothesis no. 10: Novelty as sensation seeking dimension predicts the compulsive work. For this hypothesis the $p > .05$ and was not confirmed.

Testing hypothesis no.11: Novelty as sensation seeking dimension predicts the work in excess.

Applying the regression model also this hypothesis was not confirmed because $p > .05$ for the predictor Novelty.

Testing hypothesis no.12: Intensity as sensation seeking dimension predicts the work in excess.

Also, for this hypothesis $p > .05$ and the predictor Intensity was not confirmed for the regression model. Hence, the hypothesis was not confirmed.

Testing hypothesis no.13: Attachment predicts the Compulsive work.

Running the linear regression procedure, in table 4 can be seen the R and R Square values.

Table 4. Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.686 ^a	.471	.439	3.95629

- a. Predictors: (Constant), Attachment
b. Dependent Variable: Compulsive work

Analyzing the Constant and the Standardized Coefficients for the regression model related to the hypothesis no. 13, the significance of the predictor is $p < .05$ and the hypothesis no.13 has been confirmed.

The regression equation is the following:

$$\text{Compulsive work} = -1.051 + .617 * \text{Attachment}$$

Testing the 14th hypothesis: Attachment predicts statistically significant the Work in excess.

In the table 5 can be seen the R and R Square values for the regression model.

Table 5 – Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.545 ^a	.297	.256	3.57841

Predictor: Attachment

In the table 6 can be seen the Unstandardized Coefficients values and the significance of the predictor: Attachment for the criteria Work in excess.

Table 6. – Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	6.959	3.016		2.308	.034
	Attachment	.385	.144	.545	2.680	.016

a. Dependent Variable: Work in excess.

According the results after testing the hypothesis no. 14, the regression equation is the following ($p < .05$):

Work in excess = $6.959 + .385 * \text{Attachment}$

5. CONCLUSIONS

The conclusions evidence the results regarding testing hypotheses. Hence, the study highlights that the Intensity as Sensation seeking dimension correlate statistically significant with the Compulsive work ($r = .689$; $p < .01$), Work in excess correlate statistically significant with Attachment ($r = .545$; $p < .01$) and the Compulsive work correlate statistically significant also with Attachment ($r = .686$; $p < .01$). In this way, can be underlined that Attachment and Intensity are predictors for Addictive work measured by the facets: Compulsive work and Work in excess.

Testing the regression hypotheses the results confirmed that Intensity as sensation seeking dimension predicts the Compulsive work and Attachment predicts statistically significant the Work in excess and Compulsive work ($p < .05$).

In conclusion, the employee Attachment represents a very important variable that may predict the work addiction.

Taking in consideration the scientific literature the addictive behaviour is statistically significant correlated with the sensation seeking and may have implications at work place as work addiction. As the scientific sources cited highlight, workaholism is an addiction having negative effects, but studies reveal that may have and positive effects (Di Stefano & Gaudiino, 2018). The authors, underline that workaholism and work engagement showed a positive relation strongly supported by previous studies cited by the authors (Shimazu & Schaufeli, 2009; Schimazu et al. 2012).

Further studies should focus on a better separation between workaholism and work addiction concepts measured by the psychological instruments, and also on the

study of the relationship between the workaholism, sensation seeking and work performance in a positive way.

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HARDINESS AS A MODERATOR EFFECT OF WORK ENVIRONMENT TOWARDS JOB SATISFACTION

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Abstract

Feeling satisfaction at work is one of the most important things that must be felt by every worker. The work environment is also one of the contributing factors. So this study aims to test hardiness as a moderator of the influence of the work environment on job satisfaction on teachers. The number of subjects in this study were 76, ages ranging from 20-51 ($M = 25.48$ $SD = 5,732$), marital status (married = 40.4%, unmarried = 59.6%) Final education status ($S1 = 79.8\%$ $S2 = 2.2\%$ $S3 = 2.2\%$ $SMK = 1.1\%$). This study uses The Teacher's Perceived Work Environment (TPWE) Scale, Job Satisfaction Survey (JSS), Hardiness Scale with Process v3.4 Hayes analysis of SPSS 21 applications. The results of the regression test show that the hardiness personality plays a role in influencing the work environment on the job satisfaction and is constantly able to improve the work environment and stabilize job satisfaction with teachers.

Keywords: *Job satisfaction, Work environment, Hardiness*

1. INTRODUCTION

One of the essential things in a job is being able to feel job satisfaction, especially in the teaching profession (Knigama, Selvabaskar, Surulivel, Alamelu, & Joice, 2004). The lack of motivation and job satisfaction among teachers due to inadequate salaries and adverse environmental conditions in their workplaces. If middle school teachers are well paid, they can work even harder (such as research subjects) to ensure that they have projects to stimulate working environments (Okonkwo & Obineli, 2011).

Job satisfaction is one of the factors affecting performance. Demands to be professional teachers and discrimination between honorary teachers and permanent

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teachers cause problems that can affect job satisfaction (Mbogo, 2015). Teachers' job satisfaction is an unavoidable phenomenon in the school environment. Teachers are motivated and strengthened their careers when they could carry out quality work at school. Dealing with workloads that are too heavy and deadlines that are not possible to achieve causes job satisfaction eroded even for the most dedicated employees (Nganzi, 2013). According to As'ad (1995), job satisfaction for teachers as educators is needed to improve their performance. Work satisfaction is directly affected by various psychosocial and work environment factors such as the workplace, social support, and that the rewards do not increase the level of employee dissatisfaction (Sell & Bryan, 2011).

A supportive work environment can help workers perform regular tasks effectively, making workers use the best of their knowledge, skills, competencies, and resources available to provide high-quality services (Leshabari, Mohandwa, Mwangu & Mbembati, 2008). Other findings reveal that lighting, noise, colour, and air quality have an impact on employee productivity (Sarode, Anil, & Shirsath, 2014). The setting of a physical work environment can have an impact on the level and nature of social interaction between workers. The design of open-plan offices, for example, and other aspects of physical layout can determine the types of interactions that can occur (Sundstrom & Sundstrom, 1986). Physical work environments, such as hot air, noise, and lighting affect some psychological processes both directly and indirectly, for example, noise can damage the cognitive performance of several types of tasks, thus impacting job satisfaction (Banbury, Simon & Berry, 1998).

Hardiness as a moderator in the relationship between structural and psychological empowerment to burn out in middle managers (Calvo & Garcia, 2017). Hardiness is a moderator between the big five models (extraversion, emotional stability, conscientiousness, agreeableness, and openness) and work effort. If there is a role of hardiness as a moderator like the above results (Tejedor, Beltrán, Grau, & Mangas, 2015), then the purpose of this study is to test hardiness as a moderator of the effect of the work environment on job satisfaction on teachers.

Job Satisfaction

Job satisfaction is a general attitude towards one's work as the difference between the number of rewards received by workers, and the amount believed that should be received (Robbins, Judge, 2008). Individuals with high levels of job satisfaction will have positive feelings about their work, while individuals who are dissatisfied with their work will have negative feelings about the work they lead (Robbins & Judge, 2008). One of the effects of work dissatisfaction is that individuals are less committed to their work and appear to withdraw from company activities by not attending (Robert, Mathis & John, 2010). It has been identified that absenteeism, irregularity, and lack of commitment are all effects of low job satisfaction (Bennell & Akyeampong, 2007).

Research (Nobi, Raheem, & Jamal, 2003) about the work satisfaction of 236 teachers in secondary schools, revealed that female teachers tended to be more satisfied compared to male teachers. Teachers who work in government schools show higher satisfaction than teachers who work in private schools.

Work Environment

The work environment is also one of the factors that contribute to achieving job satisfaction. Employees must also be able to ensure the quality of their work; to achieve company standards, employees need a work environment that allows them to be able to perform their work freely without any problems that could hold back their potential (Raziq, & Maulabakhsh, 2014). The work environment relates to space, physical layout, noise, tools, materials, and colleague relations; the quality of all of them has an impact on employee performance (Tyssen, & Hadayana, 2005). People prefer the work environment to be seen as valuing their results, and that such an environment increases workers' trust in future work (Brown, & Sessions, 2003).

The study (Muhammad, Rehaman, & Ahmed, 2015) examined the level of job satisfaction and teacher associations between teacher freedom, teacher involvement, management policy, colleague relations, and employer-employee relations with job satisfaction at university teachers. It was concluded that there was a positive and robust relationship between work environment and teacher job satisfaction. It was proven that the supervisor-employee relationship had a higher impact on teachers' job satisfaction. Management policies and teacher freedom also have a significant impact on teacher job satisfaction but are smaller than supervisors and employee relations. Teacher involvement and colleague relations have a lower influence on teacher job satisfaction.

Hardiness

Some concepts that affect job satisfaction are individual personality, gender, education, age, level of work, work environment, work loyalty, employee empowerment, and turnover (Franek, & Vecera, 2008). Hardiness personality is a type of personality that tends to perceive or view life events that have the potential to bring pressure as something that is not too threatening. Hardiness is considered to be able to control individuals in dealing with stress that is being experienced in the work environment to survive (Kobassa, Sanders, & Suls, 1982). Hardiness, namely hardiness which is considered to be the uniqueness of the so-called existentialist as existential courage (Maddi, 2004). Seeing potential stressful events as meaningful and exciting (called commitment), seeing the self capacity of changing circumstances (called control), and see changes as usual and as opportunities for growth (called challenges) (Kobasa, 1982).

Resilient individuals can increase the tendency to interpret stressful situations as challenging, so they do not consider a problem as a threat. They have a higher sense of commitment to their work, a high sense of self-control over their lives, and

evaluate pressure as a potential opportunity for change (Kobassa, Sanders, & Suls, 1982). In particular, hardiness emerges as a pattern of attitudes and strategies that together facilitate changing the stressful situation from potential disasters to growth opportunities. The aspects of hardiness include commitment, control, and challenge. Individuals who have the nature of hardiness tend to see life as an ever-changing phenomenon that triggers them to learn and change (challenges) and think that through this developmental process, they can work on change in ways that turn them into experiences who satisfies (controls). They also share this effort and learning in a way that supports essential people and institutions in their lives or commitment (Maddi, 2013). In principle, one's perception of self and their ability to control emotions and a sense of personal responsibility makes that person feel job satisfaction and react to it (Card, Mas, Moretti, Enrico, 2014).

2. OBJECTIVE AND HYPOTHESES

2.1. OBJECTIVE

The purpose of this study is to test hardiness as a moderator of the effect of the work environment on job satisfaction on teachers.

2.2. HYPOTHESES

Hardiness acts as a moderator between the influence of the work environment and job satisfaction on teachers.

3. METHOD

The number of subjects in this study was 76, sampling using random sampling techniques in honorary teachers, and to fill the scale of researchers using Google forms. Age from 20-51 (M = 25.48 SD = 5,732), marital status (married = 40.4%, unmarried = 59.6%) Final education status (S1 = 79.8% S2 = 2.2% S3 = 2.2% SMK = 1.1% %).

3.1. Instrument

Work environment - The Teacher's Perceived Work Environment (TPWE) Scale (Wong, Yau-ho. 2015). Statements on this scale consist of 15 favorable items and 10 unfavorable items so that all statements on this scale total of 25 items. Each item has 7 Likert scale categories. Give a range of 1 to 7 where number 7 indicates agreement, and number 1 indicates disagreement (e.g., Class has good light). This scale was adapted using Indonesian with a reliability value (Cronbach alpha) of 0.999.

Job satisfaction- Job Satisfaction Survey (JSS) (Richard, 2011) consists of 30 items to measure the extent of individual satisfaction at work. Each statement has two categories of answers, namely, Yes or No. Individuals who answer "Yes" will get 2 points while individuals who answer "No" will get 0 point (e, g. I am excited when leaving for work). This scale was adapted using Indonesian with a reliability value (Cronbach alpha) of 0.999.

Hardiness scale compiled by (Bartone, 2013) following the concept of Maddi and Kobasa, consisting of 15 items. This scale has six unfavorable items at numbers 3, 4, 8, 11, 13, 14 (e.g., Generally for me to live it's boring). This measurement aims to determine individuals who have personality hardiness. This scale was adapted using Indonesian Discuss with the reliability value (Cronbach alpha) 0.998.

4. RESULTS

The results of correlation analysis between variables showed a positive correlation between hardiness and work environment with significance ($r = 0.476$ $r < 0.01$), as well as the results of the correlation between hardiness and job satisfaction, which showed a negative relationship ($r = 0.050$ $p > 0.05$). While the correlation between work environment and job satisfaction shows a negative correlation, on the contrary, the significance of $r = -0.248$ $p \Rightarrow 0.01$.

4.1. TABLES AND FIGURES

Table 1 – Test the correlation among variables of *hardiness, work environment, and job satisfaction*

	Work Environment	Job Satisfaction	Hardiness
Work Environment	1	-.248*	.476**
Job Satisfaction	-	1	.050
Hardiness	-	-	1

* $p=r > 0.01$

** $p=r < 0.01$

Regression analysis in table 2. The result shows that the contribution of indirect effects of the work environment to job satisfaction is significant ($R^2 = .313$; $\beta = -.112$; $p = 0.007$). The role of hardiness as a moderator between the influence of the work environment on job satisfaction shows a significant increase ($R^2 = 0.398$; $\beta = 2.344$; $p = 0.026$). These results state that hardiness has a role as a determinant of the influence of the work environment on job satisfaction in individuals. Like the shape of the graph in Figure 1.

Table 2. Regression test between hardiness and its interaction with the work environment on job satisfaction

Model 1	B	B	R ²
Work Environment	-.112**	-.352**	.313*
Hardiness	.230*	.217*	
Model 2			
Work Environment × Hardiness	.266*	2.344*	.398**

Figure 1. Graph moderation

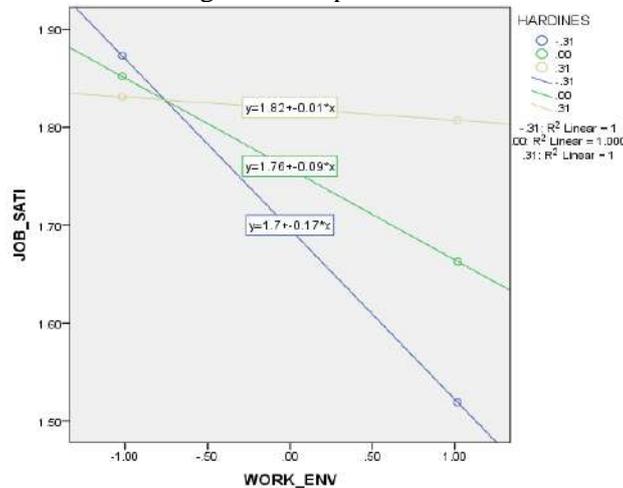


Figure 1. A high work environment with a low hardiness moderator that affects job satisfaction is low.

5. CONCLUSIONS

Hardiness personality provides a role in influencing the work environment on job satisfaction and is constantly able to improve the work environment and stabilize job satisfaction with honorary teachers.

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COVID-19 PANDEMIC SOURCE REPRESENTATION IN A SAMPLE OF ROMANIAN ADULTS: A BRIEF REPORT

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Abstract

Across two studies, we explored the COVID-19 pandemic source representation. Our first cross-sectional approach included a sample of adults aged 20 to 67 (Study 1: N=824, 66% females; Study 2: N=237, 77.6 % females), three weeks following restrictive social measures imposed by the Romanian government (i.e. social distancing, self-isolation, closing schools). We used an open-end question to explore people’s beliefs about who or what caused the pandemic, at two different times (i.e., three weeks after the imposition of lockdown measures due to the COVID-19 pandemic – Study 1, and five weeks – Study 2), and we categorized each answer using a qualitative approach. Our main findings revealed that, in both studies, most people believed that the COVID-19 pandemic was determined by people’s irresponsibility or lack of hygiene. Results are discussed within the conspiracy belief frameworks, emphasizing their importance in explaining people’s social and psychological responses to the COVID-19 pandemic.

Keywords: COVID-19, pandemic source, conspiracy beliefs, social response

1. INTRODUCTION

The COVID-19 crisis can be considered a worldwide disaster, with more than nineteen million confirmed cases (at the time of writing) and over 700.000 deaths. Millions of people have already lost their jobs, have been sent to isolation, and countries closed their borders while the novel coronavirus made humankind feel more vulnerable than ever. However, at the current moment, information surrounding the COVID-19 pandemic source is scarce. Numerous conspiracy theories fuel fake news spreading dizzyingly on websites or in traditional media, generating an “infodemic,” which is as dangerous as the disease (WHO, 2020). Scientific reports showed that the novel SARS-CoV-2 coronavirus emerged in Wuhan, China and that no evidence was found to suggest that the virus was laboratory-made or otherwise engineered (Andersen, Rambaut, Lipkin, & Holmes,

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2020). The animal source of COVID-19 has not yet been confirmed, but the original host is considered bats. There is currently no specific treatment for the novel coronavirus, though several drugs are being tested across the globe.

Recent preliminary work suggested that beliefs about the COVID-19 source might significantly contribute to people's compliance with lockdown measures (e.g., Imhoff & Lamberty, 2020). Weaker support of containment-related behavior is thought to be related to conspiracy beliefs (i.e., the COVID-19 is a bioweapon). Such source representations may impact present and future outcomes in people's general attitudes and behavior in a health-related crisis, such as the present one. However, we were not interested in conspiracy beliefs per se, but in the general representation of the coronavirus in a representative sample of Romanian, three weeks and five weeks, respectively, after the government imposed restrictive social measures (e.g., isolation). At the end of March, 52% of the 950 Romanians answered the question *Whom do you think is responsible for the novel coronavirus?* (through a telephone survey) believed that the COVID-19 was created in a laboratory (Pora, 2020). More than forty percent believed that the government was to blame for the pandemic spread across the country, along with Romanians who returned from other European countries back to their homeland, carrying the virus.

Conspiracy theories and fake news surrounding the novel coronavirus, which are constantly growing worldwide (Ahmed, Vidal-Alaball, Downing, & López Seguí, 2020; Easton, 2020; Erku et al., 2020; Tapia, 2020) did not bypass Romanians. Social media platforms, blogs, and various so-called informational sites are constantly fed with fake news about the origin and evolution of COVID-19, even if the local authorities frequently resort to legal measures aimed to eradicate them. From the beginning of the lockdown in Romania, several sites have been closed since they distributed false news about COVID-19. Research has already shown that during stressful times and societal crises, such as the current pandemic, conspiracy beliefs rise due to people's fear and uncertainty (van Prooijen & Douglas, 2017). Georgiou, Delfabbro, and Balzan (2020) showed, for example, that conspiracy beliefs surrounding the COVID-19 pandemic are associated with more negative attitudes towards the governmental measures (i.e., lockdown, social distancing, wearing a mask in public spaces). Therefore, such beliefs' harmful consequences must direct our efforts into social and legal measures to prevent them.

2. OBJECTIVE AND HYPOTHESES

2.1. OBJECTIVE

In the current paper, we were interested in finding participants' source representation for the COVID-19 pandemic, offering them the possibility of a spontaneous answer to the question assessing the COVID-19 health crisis's

perceived source. The study was conducted following the ethical standards implied by the 2013 Helsinki Declaration. A consent form presented the study's primary objective related to the general perception of the COVID-19 pandemic. All participants were informed of their right to withdraw from the study any time they wanted, and that all the data they provided would be kept confidential.

2.2. HYPOTHESES

Given the constantly growing conspiracy theories and fake news surrounding the novel coronavirus, in line with previous researchers (Ahmed, Vidal-Alaball, Downing, & López Seguí, 2020; Easton, 2020; Erku et al., 2020; Tapia, 2020) we assumed that the pandemic source representation surrounding COVID-19 in Romania would highlight such beliefs.

STUDY 1

3. METHOD

At the beginning of April 2020, we designed a web-based survey three weeks after the imposition of lockdown measures. **Our sample** consisted of 824 adults, aged 20 to 67 ($M= 35.53$, $SD=9.44$), 66% females. Most participants had a Bachelor's degree (50.5%), while 19.7 % graduated from college, and 29.9 % had a Master's degree. Two independent researchers analyzed the data for both studies. Each answer was coded into a category. A total of 978 answers were placed into 11 categories. Cohen's kappa ($\kappa = .708$; 95% CI, $p < .001$) indicated moderate inter-rater reliability between the two coders (McHugh, 2012). Along with demographical-related questions, we addressed the following open-end question: *Who or what do you think caused the current COVID-19 pandemic?* There was no textual limitation of the answers given. The participants were reminded that there were no right or wrong answers, their sincerity being the essential aspect of their contribution.

4. RESULTS

Most participants (around 30%) considered people's irresponsibility and poor hygiene as the pandemic's primary source. Answers such as "People made the virus spread because we still don't know how to wash our hands properly, nor to protect the ones around us" or "people are not responsible towards their peers, no matter the country, the city, the income or other factors: we made this happen!" were among the most frequent. Out of the total sample, 20% of participants considered the Chinese government and researchers responsible for the COVID-19 pandemic. They further detailed their answer, suggesting that the virus was created in a laboratory,

or that Chinese officials fabricated the pandemic, for political interests – both alternatives being premeditated. The fourth significant category was formed by people who simply answered, “I do not know” (around 13%). Table 1 offers a detailed perspective on all eleven categories created by the two experimenters.

4.1. TABLES AND FIGURES

5. Table 1. The COVID-19 pandemic source representation – Study 1

Category	N	%
China (<i>i.e., government and Chinese researchers</i>)	190	19.45
World politics (<i>i.e., state governments and powerful world leaders</i>)	169	17.29
People (<i>i.e., poor hygiene, irresponsibility</i>)	314	32.10
Animals	33	3.37
Animal consumption (<i>i.e., animal markets</i>)	20	2.04
Globalization	7	0.71
Nature	86	8.79
Russia	1	0.10
Pollution	15	1.54
God	16	1.63
I don't know	127	12.98

STUDY 2

5. METHOD

Two weeks following our first survey, therefore, a month following lockdown restrictions, we designed a second one, following an identical procedure. **Participants** were 237 adults, aged 18 to 68 ($M=28.63$, $SD=11.41$, 77.6 % females). They had either a bachelor's degree (14.8%) or a master's degree (85.2%). None of them participated in our first survey. As in our previous study, we addressed an identical task (Who or what do you think caused the current COVID-19 pandemic?). As in Study 1, there was no textual limitation for participants' answers.

6. RESULTS

Similar to our previous results, most people (over 52%) considered people's irresponsibility and lack of proper hygiene as the primary source of the current health crisis, followed by the Chinese government (15%) and global politics and world

leaders (12%). **Table 2** offers a detailed perspective of the pandemic source representation in our second sample.

Table 2. The COVID-19 pandemic source representation – Study 2

Category	N	%
China (<i>i.e., government and Chinese researchers</i>)	36	15.2
World politics (<i>i.e., state governments and powerful world leaders</i>)	28	11.8
People (<i>i.e., poor hygiene, irresponsibility</i>)	125	52.7
Animals	11	4.6
Animal consumption (<i>i.e., animal markets</i>)	7	3.0
Globalization	1	0.4
Nature	22	9.3
Russia	1	.04
Pollution	4	1.7
God	2	0.8

We further performed Chi-square tests in order to explore the associations between demographical variables and source representation. Results showed no significant links (all p -s>.005).

6. CONCLUSIONS

The current research's main objectives were to explore the general perception of the current COVID-19 pandemic among a sample of Romanian adults. Our results were partially similar to previous data related to the pandemic's source perception among Romanians, specifically – the idea that governments are involved in the COVID-19 creation and spread. Most participants in both our samples ($N=1061$) considered people's irresponsibility and lack of proper hygiene as the main source of the pandemic, suggesting a perceived moral responsibility for humankind in general and not a specific group of powerful people (*i.e., world leaders*). However, a considerable percentage blamed Chinese governments and researchers, followed by state politics and leadership. Therefore, our data may seem to confirm the spread of conspiracy theories, which the WHO warned to become an "infodemic."

One of our research strengths lies in the fact that findings related to the source of the pandemic in our first sample were confirmed by a second one, with similar percentages related to the number of participants. Along with an increase in our results' ecological validity, it is important to note their consistency, two weeks after the initial testing. In stressful times such as these, two weeks may be considered as a reasonable amount of time for mindset transformations, due to permanent changes

and updates in pandemic statistics (both nationally and globally), but primarily due to the abundance of information centered on COVID-19. The substantial similarity between our samples in terms of source representations strengthens our data validity.

A series of limits for the current research must be addressed. First, all measures were self-reported, and social desirability may have interfered with the veracity of participants' answers. Second, our convenient samples were not balanced in terms of gender or education. Future research may want to explore the present ideas using larger, more representative samples of adults. However, the present research contributes to a better understanding of people's perception of the pandemic. However, people's social and psychological responses to the COVID-19 health crisis are crucial during challenging times, such as the current ones. Our preliminary results may be considered a valuable starting point for effective intervention strategies.

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THE RELATIONSHIP BETWEEN HUMOR, LIFE SATISFACTION, EMOTIONS AND WELL-BEING

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Abstract

The study is focused on evidencing the relationship between Humor Styles variables, positive and negative emotions, Well-Being and Life Satisfaction. Hence, there were six correlation hypotheses and eight prediction hypotheses. Method: The participants were a number of 43 people aged between 20 and 61 ($M=37.79$; $S.D.=10.48$), both females and males from different professional backgrounds. The instruments were the Humor Styles Questionnaire (Martin et al., 2003) with four dimensions: Affiliative humor, Self-enhancing humor, Aggressive humor and Self-defeating humor; the Ryff Well-Being scale (Ryff, 1989), MEST-Ro (Pitariu, Levine, Mușat, & Ispas, 2006) and Satisfaction with Life Scale (Diener et al., 1985). The hypotheses were statistically significantly confirmed ($p<.05$). Furthermore, other correlations have been obtained by applying the Pearson correlation test. All the hypotheses and the findings are supported by the international scientific findings presented in the introduction. Further studies should be developed regarding the relationship between Humor Styles and other variables.

Keywords: Affiliative humor, Self-enhancing humor, Life satisfaction, Autonomy.

1. INTRODUCTION

1.1 The relationship between the Humor Styles and Well-Being

Kuiper (2016) underlines the importance of humor in human life and explains the four types of humor issued by Martin et al. (2003) in the "Humor Styles Questionnaire". Also, the same author evidences that the instrument was translated in 25 foreign languages enhancing activity and interest in research applications.

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Sirigatti et al. (2014) conducted a study regarding the relationship between the humor styles and well-being in Italy. The population sample was a total of 293 individuals (178 females, 115 males) from the Italian high school and undergraduate university students, age between 14 to 25 years. The scales were HSQ (Martin et al., 2003) and Ryff's Psychological Well-Being scales (Ryff, 1989; Ryff & Keyes, 1995). Hence, the results evidence a positive statistically significant correlation between Affiliative and Self-enhancing humor styles with the six dimensions of the well-being.

Torres-Marín et al. (2017) conducted a study focused on the psychometric proprieties of the Humor Style Questionnaire – Spanish version (Martin et al., 2003) and the relationship between the Humor styles and the personality and well-being dimensions. The authors selected a sample of 1068 participants, age between 18 and 65 years old. They tested the internal consistency of the instrument and the relationship between the personality (Big Five and Hexaco model) and well-being. Furthermore, verifying the external validity in anger management, the results that the Spanish version of the Humor Style Questionnaire represents a reliable and valid measure.

Salavera, Usán & Jarie (2018) were interested to investigate the relationship between the humor styles and the social skills in students. Furthermore, the authors calculated the psychometric indicators and also gender differences. They found out that the male scores are statically significant higher than the female scores at all four types of humor styles. The model constructed with the fourth humor styles and the social skills evidenced an optimum fit.

1.2 The relationship between Humor Styles, Emotions and Satisfaction with Life

Yue et al. (2017) conducted a study focused on the relationship between the Humor Styles, Self-Compassion and Life Satisfaction. The authors applied the Chinese Humor Styles Questionnaire (2007), Satisfaction with Life Scale adapted from the original (Diener et al., 1985) and Self-Compassion Scale (Neff, 2003). The authors used a sample of 277 Chinese participants from Hong Kong, 25 males and 152 females, age between 18 and 60 years old. The bi-variate correlation hypotheses were statistically significant confirmed. Also, the authors find out that humor styles predicted life satisfaction.

Applying the mediating effect of the fourth humor styles, the results confirmed partially the hypotheses in the way that the self-enhancing humor mediated the relationship between the variable self-compassion and the variable satisfaction with the life.

Ford, McCreight & Richardson (2014) were interested to evidence the relationship between the Affective Style, Humor Styles and Happiness as emotion. The authors applied the Humor Styles Questionnaire (Martin et al., 2003), *BIS/BAS*

Questionnaire (Carver and White's, 1994) and *Subjective Happiness Scale (SHS)* constructed by Lyubomirsky and Lepper's (1999) for the measurement of the happiness. The authors find out that the relationship between affect styles and happiness was mediated by self-enhancing humor style. Also, another finding evidence that the people involve in self-defeating humor in the way of facilitating the avoidance of the negative emotional experience when problems occurs in daily life. In the same study the authors revealed statistically significant negative correlations between the self-defeating and aggressive humor styles with happiness, and positive statistically significant correlation between the self-enhancing humor style and happiness.

Schermer et al. (2019) conducted a study regarding the Humor Styles in over 28 countries. For the beginning the authors analyzed the central tendency indicators and Alpha Cronbach for the fourth types of humor: Affiliative humor, Self-enhancing humor, Aggressive humor and Self-defeating humor. The studied Countries included and Romania. The authors were interested in evidencing humor styles sex differences and humor style related with age. Also, the confirmatory factor analysis across countries was applied.

Hofstein (2005) were interested to investigate in his master thesis the relationship between humor, life satisfaction and the negative life events. The author underline in conclusion that the sense of humor is related to emotional aspects that occur in life as live events and also with life satisfaction. Hence, the coping humor may influence the positive and negative affects.

2. OBJECTIVE AND HYPOTHESES

2.1. OBJECTIVE

The general objectives of the research:

1. To establish possible bivariate correlations between the Humor Styles variables, positive and negative emotions and, Well-Being and Life Satisfaction.
2. To evidence that Humor Styles are predictors for the Well-Being six dimensions and for the Life Satisfaction.

Secondary objectives:

- Establishing correlations between positive and negative emotions and the fourth Humor Styles: Affiliative humor, Self-enhancing humor, Aggressive humor and Self-defeating humor;
- Establishing correlations between positive and negative emotions and the sixth dimension of the Well-Being scale: Self-acceptance, Positive relations with others, Autonomy, Environmental mastery, Purpose in life, Personal growth;

- To evidence possible regression models in order to be able to confirm that the Humor Styles are predictors for the Well-Being dimensions and for the life satisfaction.

2.2. HYPOTHESES

The research hypotheses are the followings:

-Hypotheses for the bivariate correlation

1. There is a positive statistically significant correlation between the positive emotions and affiliate humor
2. There is a positive statistically significant correlation between the positive emotions and self enhancing humor
3. There is a negative statistically significant correlation between the negative emotions and affiliate humor
4. There is a positive statistically significant correlation between the autonomy and affiliate humorous
5. There is a positive statistically significant correlation between the autonomy and self enhancing
6. There is a negative statistically significant correlation between the negative emotions and affiliate humorous

-Hypotheses for the predictive models

7. Affiliative Humour predicts positive statistically significant the human autonomy
8. The Self-enhancing humour predicts positive statistically significant the level of human autonomy
9. Aggressive Humour predicts statistically significant negative the human autonomy
10. Affiliate Humour predicts statistically significant the control
11. Aggressive Humour predicts negative statistically significant the personal growth
12. Aggressive Humour predict negative statistically significant the purpose in life
13. Affiliative Humour predicts positive statistically significant the purpose in life
14. Self-Enhancing humor predicts positive statistically significant the purpose in life

1. METHOD

6.1. The participants

The participants were a group of approximately 43 people aged between 20 and 61 ($M=37.79$; $S.D.=10.48$), both females and males from different professional backgrounds. They responded by filling out a Google document form between 28.08.2020 and 08.09.2020.

6.2. The instruments

1. The Humor Styles Questionnaire (Martin et al., 2003). The instrument provides four types of humor (two positive and two negative):

1. Affiliative humor
2. Self-enhancing humor
3. Aggressive humor
4. Self-defeating humor

The authors conducted a validation study on 258 adult participants in the way of the well-being, self-esteem and other variables. All the psychometric coefficients were significant.

2. Ryff's Well-Being Scale (Ryff, 1989; Ryff & Keyes, 1995) was used to evaluate psychological well-being. The instrument is structured on six dimensions: Self-acceptance, Positive Relations with others, Autonomy, Environmental Mastery, Personal Growth, and Purpose in Life, from a scale from 1-very low to 6-very high.

Sirigatti, et al. (2014) evidence that the goodness of fit of the CFA model was good and also the construct validity (confirmatory factor analysis).

3. MEST-Ro (Pitariu, Levine, Muşat, & Ispas, 2006) adapted after Levine, E.L. & Xu, Xian (2005). The instrument measure five negative emotions (sad, anger, guilt and shy, anxiety and envy) and five positive emotions (happy, pride, affectivity, vigilance, gratitude) either state experimented or trait in general. The scale was from 1-very low to 10 very high. In the study was selected only the emotions in general from the original questionnaire.

4. Satisfaction with Life Scale (Diener et al., 1985) is a self report questionnaire with 5 items on a scale from 1-very low to 7-very high.

6.3. Procedure

The Ethical code and GDPR legislation for research were the starting point of the application. The instruments were applied on-line Google-docs. Hence, before the instruments application the participants were able to read the following instructions: "Hello, please complete this questionnaire. Completing this questionnaire represents your acceptance to participate in the study and your agreement that the completed data be used for scientific purposes and that the research be published in a scientific journal. We mention that anonymity, ethical conditions in research and GDPR are maintained. Thank you! "

The participants were informed about the research consent and also about the anonymous identity.

6.4. The design

In order to test the regression hypotheses, the variables were the followings:

- Independent variables: Affiliative humor, Self-enhancing humor, Aggressive humor and Self-defeating humor.
- Dependent variables: Life Satisfaction, Self-acceptance, Positive Relations with others, Autonomy, Environmental Mastery, Personal Growth, and Purpose in Life

2. RESULTS

Applying the bivariate correlation Pearson test the following results has been obtained:

There are statistically significant positive correlation between the variables: Autonomy and Life satisfaction ($r=.577$; $p<.001$), Autonomy and Life satisfaction ($r=.361$; $p<.05$), Autonomy and Affiliative humor ($r=.399$; $p<.01$), Autonomy and Self-enhancing humor ($r=.377$; $p<.01$), Control and Life satisfaction ($r=.443$; $p<.01$), Control and Affiliative humor ($r=.635$; $p<.01$), Personal Growth and Affiliative humor ($r=.660$; $p<.01$), Positive relationship and Self-enhancing humor ($r=.324$; $p<.01$), Purpose in life with Life Satisfaction ($r=.348$; $p<.01$), Purpose in life with Affiliative humor ($r=.397$; $p<.01$), Purpose in life with Self-enhancing humor ($r=.511$; $p<.01$), Self-acceptance with Life Satisfaction ($r=.567$; $p<.01$), Self-acceptance with Life Satisfaction ($r=.567$; $p<.01$), Self-acceptance with Positive emotions ($r=.444$; $p<.01$), Self-acceptance and Affiliative humor ($r=.586$; $p<.01$), Self-acceptance and Self-enhancing humor ($r=.433$; $p<.01$), Satisfaction with life and Positive emotions ($r=.483$; $p<.01$), Satisfaction with life and Affiliative humor ($r=.308$; $p<.01$), Satisfaction with life and Self-enhancing humor ($r=.488$; $p<.01$), Positive emotions and Affiliative humor ($r=.309$; $p<.01$), Positive and Self-enhancing humor ($r=.577$; $p<.01$).

There are statistically significant negative correlation between the variables: Autonomy and Negative emotions ($r=-.541$; $p<.001$), Autonomy and Life satisfaction ($r=.361$; $p<.001$), Autonomy and Aggressive Humor ($r=-.439$; $p<.01^*$), Control and Negative emotions ($r=-.613$; $p<.01$), Personal Growth and Negative emotions ($r=-.532$; $p<.01$), Personal Growth and Aggressive humor ($r=-.448$; $p<.01$), Purpose in life with Negative Emotions ($r=-.424$; $p<.01$), Purpose in life with Negative Emotions ($r=-.330$; $p<.01$), Self-acceptance and negative emotions ($r=-.713$; $p<.01$), Satisfaction with life and negative emotions ($r=-.337$; $p<.01$), Negative emotions and Affiliative humor ($r=-.489$; $p<.01$), negative and Self-enhancing humor ($r=-.358$; $p<.01$).

Testing the correlation hypotheses the following hypotheses were confirmed:

- There is a positive statistically significant correlation between the positive emotions and affiliate humor
- There is a positive statistically significant correlation between the positive emotions and self enhancing humor
- There is a negative statistically significant correlation between the negative emotions and affiliate humor
- There is a positive statistically significant correlation between the autonomy and affiliate humorous
- There is a positive statistically significant correlation between the autonomy and self enhancing
- There is a negative statistically significant correlation between the negative emotions and affiliate humorous

The hypotheses was statistically significantly confirmed at the statistically significant $p < .01$ threshold.

After data collection the hypotheses regarding the predictive models (hypotheses 7-14) were tested using the simple linear regression model.

Testing the hypothesis no. 7: Affiliative humor predicts positive statistically significant the human autonomy.

The hypothesis has been confirmed and the predictor Affiliative humor was statistically significant for $p < .05$, $R = .399$ and $R \text{ Square} = .160$

The regression equation is the following:

$$\text{Autonomy} = 14.6 + .249 * \text{Affiliative humor}$$

Testing the hypothesis no. 8: The Self-enhancing humor predicts positive statistically significant the level of human autonomy.

The hypothesis has been confirmed for $p < .05$, $R = .377$ and $R \text{ Square} = .142$.

The regression equation is the following:

$$\text{Autonomy} = 17.421 - .139 * \text{Self-enhancing humor}$$

Testing the 9th hypothesis: Aggressive Humor predicts statistically significant negative the human autonomy.

The hypothesis has been confirmed for $p < .05$, $R = .439$ and $R \text{ Square} = .193$.

According the results after testing the hypothesis no. 9, the regression equation is the following:

$$\text{Autonomy} = 27,176 + -.268 * \text{Aggressive Humor}$$

Hence, the hypothesis has been confirmed and the Aggressive humor is statistically significant predictor for the human autonomy ($p < .05$).

Testing the 10th hypothesis: Affiliate Humor predicts statistically significant the control.

The hypothesis has been confirmed for $p < .05$, $R = .635$ and $R \text{ Square} = .403$.

Applying the regression model, the p value for the predictor was $p < .05$ and the Affiliate Humor predict the control variable. The regression equation is the following:

Control =10.63+.407* Affiliate Humor

Testing the 11th hypothesis: Aggressive Humour predicts negative statistically significant the personal growth.

The hypothesis has been confirmed for $p < .05$, $R = .448$ and $R \text{ Square} = .201$.

The p value for the predictor was $p < .05$ and the Aggressive Humor predicts negative the Personal growth. The regression equation is the following:

Personal growth =29.28-.307* Aggressive Humor

Testing the 12th hypothesis: Aggressive Humour predict negative statistically significant the purpose in life.

The hypothesis has been confirmed for $p < .05$, $R = .330$ and $R \text{ Square} = .109$.

Applying the regression model the p value for the predictor was $p < .05$ and the Aggressive Humor predict negative statistically significant the purpose in life. The regression equation is the following:

Purpose in life =26.62-.209*Aggressive Humor

Testing the 13th hypothesis: Affiliative Humor predicts positive statistically significant the purpose in life.

The hypothesis has been confirmed for $p < .05$, $R = .397$ and $R \text{ Square} = .158$.

The p value for the predictor was $p < .05$ and the Aggressive Humour predict negative statistically significant the purpose in life. According the coefficients table the regression equation is the following:

Purpose in life =15.04+.256* Affiliative Humor

Testing the 14th hypothesis: Self-Enhancing humor predicts positive statistically significant the Purpose in life.

The hypothesis has been confirmed for $p < .05$, $R = .511$ and $R \text{ Square} = .261$.

The p value for the predictor was $p < .05$ and the Self-Enhancing humor predicts positive statistically significant the purpose in life. Hence, the regression equation is the following:

Purpose in life =16.32+.195* Self-Enhancing humor

3. CONCLUSIONS

The conclusions are based on the research results but also on the international studies findings.

Hence the correlation hypotheses were confirmed but, besides these hypotheses more correlation has been confirmed as between the Humor styles and Well-being Facets and Emotions and Life Satisfaction. In this way the scientific studies presented in the introduction support these findings (Yue et al., 2017; Ford, McCreight, & Richardson, 2014; Martin et al., 2003; Schermer et al. 2019; Hofstein, 2005).

This study findings evidence that Aggressive Humour predicts statistically significant negative the human autonomy, the control, the personal growth and the purpose in life. Hence, the Aggressive humor can be an indicator of dissatisfaction and negative emotions. In this way, the individuals should receive psychological conciliation and may be introduced in a counselling program in order to develop positive affects, positive thoughts and positive relations in the future.

Another findings of this study evidence that Affiliative Humour predicts positive statistically significant the human autonomy, and purpose in life and also, the Self-enhancing humour predicts positive statistically significant the level of human autonomy and purpose in life.

These results are supported by the international findings (Kuiper, 2016; Sirigatti et al., 2014; Torres-Marín et al.; 2017; Salavera, Usán, & Jarie, 2018).

Further studies should focus on Humor styles related with depression, on-line school activities, work overload, anxiety, isolation and many other variables.

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ANXIOUS-DEPRESSIVE COMORBIDITY IN BINGE EATING DISORDER IN A CLINICAL SAMPLE OF ADOLESCENTS

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Abstract

Most of the scientific literature on Binge Eating Disorder (BED) in adolescents is based on studies with community or subclinical samples. Therefore, this study aims to determine the possible anxiety-depressive comorbidity in a sample of adolescents diagnosed with BED. The sample composed by 21 adolescents diagnosed with BED, aged between 13 and 15 years ($M = 14.10$, $SD = .99$). All of them received psychological and/or psychiatric treatment in a specific child-adolescent eating disorders unit of the National Health System of Spain. The adolescents completed the Spanish Child Depression Questionnaire (CEDI-II) and the State-Trait Anxiety Inventory for Children (STAIC). Data analysis shows that the majority of the sample did not show state anxiety (66.7%), but showed trait anxiety (57.1%). Furthermore, more than half of the patients presented moderate or severe depression (61.9%). The results indicate that the majority of patients with BED in the clinical sample had a tendency to react anxiously and suffer from depressive symptoms. The study highlights the comorbidity of anxiety-depressive symptoms in clinical samples, and points out the importance of taking into account anxiety-depressive symptoms in the evaluation and treatment of adolescents with BED.

Keywords: *binge eating disorder, adolescents, depression, anxiety.*

1. INTRODUCTION

Feeding and eating disorders (ED) are characterized by “a persistent disturbance of eating or eating-related behavior that results in the altered consumption or absorption of food and that significantly impairs physical health or psychosocial functioning” (American Psychiatric Association, 2013, p. 329). ED usually start in adolescence (Rohde et al., 2015). Within the ED, Binge Eating Disorder (BED) is characterized by “recurrent episodes of binge eating” like “eating an amount of food that is definitely larger than what most people would eat in a similar period of time under similar circumstances and with a sense of lack of control (LOC) over eating during the episode” (American Psychiatric Association,

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2013, p. 350). These binge-eating episodes have particular characteristics and a marked distress after these. Also, they are not followed by compensatory behaviors like physical exercise, self-induced vomiting, purging or use of diuretics or laxatives.

It is known that between 1 and 3% of adolescents suffer from BED, being significantly more frequent in girls than in boys (Smink et al., 2014). Furthermore, girls indicate more LOC and distress during binge episodes (Lee-Winn et al., 2016). However, the diagnosis of BED in adolescents is usually complicated. It is difficult for the adolescent to report with sincerity and clarity what they eat and, above all, to recognize LOC (Tafonsky-Kraff et al., 2007). For this reason, it is necessary to do an adequate diagnostic interview by a specialist such as psychiatric or clinical psychologist (Marzilli et al., 2018).

Psychiatric comorbidity in BED can increase its severity, chronicity and resistance to psychological and/or psychiatric treatment. It has been associated with an impairment in quality of life, an increased risk of weight gain and obesity, and higher medical mortality (Kessler et al., 2013; Thornton et al., 2017). Most research to date on comorbidity in BED has focused on the adult population. Various studies in adults with BED show how this ED is associated with diverse consequences, such as greater concern about weight and shape (Yiu et al., 2017), and clinical and subclinical symptoms of anxiety and depression (Araujo et al., 2010; Bittencourt et al., 2012).

Carrying out a review of the scientific literature, we observe how surprisingly the majority of studies on BED are based on community samples. In fact, BED in adolescence is being recently investigated (Lipsky & McGuinness, 2015), so there is little research in this field today. To date, BED in adolescents has been associated with social impairment (Swanson et al., 2011), obesity (Micali et al., 2014), and other psychological difficulties like depressive and anxious symptoms (Allen et al., 2013; Dakanalis et al., 2018; Field et al., 2012; Micali et al., 2014; Skinner et al., 2012; Sonnevile et al. 2013). However, all studies have been carried out in community samples of adolescents or taking into account only subclinical characteristics of BED (Touchette et al., 2011). These studies have basically determined the diagnosis of BED by applying a self-applied assessment instrument such as the *Binge Eating Scale* (BES) (Gormally et al., 1982), and have attempted to explore the associated clinical characteristics, relating it to other variables evaluated with other questionnaires. As far as we know, we have not found investigations in clinical samples of adolescents diagnosed with BED that allow us to know the relationship of the study variables.

Therefore, due to the difficulty in establishing the diagnosis of BED in adolescents and the need for it to be carried out by specialists, the results obtained in the investigations carried out so far in the community or subclinical population remain in doubt. From our perspective, we consider it necessary to evaluate the

possible relationship between adolescents diagnosed with BED and anxious-depressive symptoms in clinical samples. Therefore, the main objective of the present study is to determine the possible anxiety-depressive comorbidity in a sample of adolescents diagnosed with BED.

2. OBJECTIVE AND HYPOTHESES

2.1. OBJECTIVE

The main objective of the present study is to determine the possible anxiety-depressive comorbidity in a sample of adolescents diagnosed with BED.

2.2. HYPOTHESES

H₁: Adolescents with BED show anxious symptoms.

H₂: Adolescents with BED show depressive symptoms.

3. METHOD

3.1. PARTICIPANTS

The sample consisted of 21 patients diagnosed with BED, 81% women and 19% men, aged between 13 and 15 years ($M = 14.10$, $SD = .944$) who were attended in an ED unit. The mean body mass index (BMI) of the patients was 31.44 ($SD = 6.428$). As for the place of residence, 52.4% lived in rural media and 47.6% in urban media. All were students, 66.7% of the sample went to a public school compared to 33.3% who attended a private school. See Table 1.

Table 1 - Descriptive data of sociodemographic variables of the sample (n=21)

Variables	N (%)
Sex:	
- Males	4 (19.0)
- Females	17 (81.0)
Area of residence:	
- Rural	11 (52.4)
- Urban	10 (47.6)
School:	
- Public	14 (66.7)
- Private	7 (33.3)
BMI:	
- Normal (BMI = 20-25)	3 (14.3)
- Overweight (BMI = 25-30)	9 (42.9)
- Obese (BMI > 30)	9 (42.9)

Note. BMI = Body Mass Index.

3.2. INSTRUMENTS

Spanish Child Depression Questionnaire (CEDI-II) by Rodríguez Sacristán and Cardoze (1984), Spanish adaptation from the Depression Inventory for Children (CDI) by Kovacs (1992). It is a self-applied questionnaire with 16 items with 4 response possibilities. We used the second form (CEDI-II) for boys and girls from 11 to 16 years old. It evaluates depressive symptoms in childhood and adolescence. It establishes a classification according to the degree of depression and the score obtained in the questionnaire: without depression (score below 7 points), light depression (7-12 points), moderate depression (13-17 points) and severe depression (score equal or greater than 18 points).

State-Trait Anxiety Inventory for Children (STAIC) by Spielberger (1973). It is a self-applied inventory with 20 items with a 3-point Likert response pattern. It assesses global anxiety according to different situations. It can get a score between 0 and 60 points. Percentiles higher than 85 are considered as cut-off point (González Anido et al., 2009). It shows good consistency and discrimination in adolescent samples.

Body Shape Questionnaire (BSQ-34) by Cooper et al. (1987). We used the Spanish version of Raich et al. (1996). It is a self-reported questionnaire that consists of 34 items with a 6-point Likert response pattern. It evaluates body dissatisfaction, desire to low weight, fear of gaining weight and appearance-related low esteem. It can get a score between 34 and 204, where 105 is the cut-off point. It establishes a classification according to the degree of concern for body image: no concern (score below 80 points), slight concern (81-110 points), moderate concern (111-140 points) and extreme concern (score equal or greater than 141 points) (Cooper & Taylor, 1988). It shows high internal consistency (Cronbach's alpha of 0.95-0.97).

3.3. PROCEDURE

This is a descriptive, retrospective, quantitative, and transversal design.

After receiving the appropriate permissions from the responsible for the ED Unit, we collected the results of the questionnaire scores from the patients' medical records. These questionnaires are applied to each person who begins their intervention in the ED Unit. To collect the sample, we established the following inclusion and exclusion criteria: 1) Patients between 13 and 15 years old; 2) Meeting diagnostic criteria of the DSM-5 (APA, 2013) for BED, 4) Not having a borderline intelligence or intellectual disability; and 5) Receiving psychological and/or psychiatric treatment in the ED Unit. The diagnosis was established by the Unit's clinical psychologist or psychiatrist, through clinical interviews with the patient and the patient's parents or caregivers. A code was assigned to each patient to guarantee their anonymity and confidentiality principle. Under this code, the diagnosis, age, sex, area of residence and type of school were collected. All the

information obtained was processed in accordance with the provisions of Organic Law 3/2018, of December 5, on the Protection of Personal Data and guarantee of digital rights.

3.4. DATA ANALYSIS

Data were analysed with the *Statistical Package for the Social Sciences* (SPSS), version 19. Regarding the statistical analyzes used, depending on the nature of the variables, the appropriate descriptive statistics were performed.

4. RESULTS

First, we carried out a descriptive analysis of the main results of the questionnaires in the total sample ($n = 21$). Taking the total study sample, the means questionnaires scores do not exceed the relevant cut-off point for the STAIC ($M < 85$), but the mean of the participants shows a score corresponding to a moderate depression ($M = 14.43$). See Table 2.

After that, we analyze each one of the variables separately. Regarding the anxious clinic, the majority of the sample (66.7%) showed no anxiety state, but had trait anxiety (57.1%). Regarding the depressive symptomatology, the majority of the sample (38.1%) showed a moderate depression and 61.9% of the sample reported moderate or severe depression. See Table 2.

Table 2 - Descriptive statistics of STAIC and CEDI-II scores

	N (%)	Minimum	Maximum	M (SD)
STAIC State		10	99	66.90 (26.21)
Presented (> 85)	7 (33.3)			
Absent (< 85)	14 (66.7)			
STAIC Trait		4	98	78.14 (21.07)
Presented (> 85)	12 (57.1)			
Absent (< 85)	9 (42.9)			
CEDI-II		4	27	14.43 (6.03)
Without depression (< 7)	1 (4.8)			
Light depression (7 - 12)	7 (33.3)			
Moderate depression (13 - 17)	8 (38.1)			
Severe depression (> 18)	5 (23.8)			

Note. STAIC = State-Trait Anxiety Inventory for Children; CEDI-II = Spanish Child Depression Questionnaire.

5. CONCLUSIONS

The main objective of this study was to determine the possible anxiety-depressive comorbidity in a clinical sample of adolescents with BED. On the one hand, the results indicate that the majority of patients in the sample studied exhibited trait anxiety. In other words, adolescents with BED showed a tendency to react anxiously, to perceive situations as dangerous and / or threatening, and to respond to these situations with anxiety. These findings are in line with previous studies with subclinical (Touchette et al., 2011) or community (Allen et al., 2013; Dakanalis et al., 2018; Micali et al., 2014) samples of adolescents.

The comorbidity of the anxiety trait in adolescents with BED could explain the propensity of these patients to binge as an inadequate strategy for managing situations. People with BED seem to experience stressors and related emotions differently. They have been seen to experience greater negative stressors (in areas such as school, family, friendship, the environment...) and are less able to tolerate negative emotional states, compared to healthy controls (Crowther et al., 2001).

On the other hand, a higher percentage of patients in the study sample presented moderate depressive symptoms. This is consistent with the review carried out by Araujo et al. (2010) on BED and depression in the adult population, and with studies carried out on community or subclinical samples of adolescents (Allen et al., 2013; Carriere et al., 2019; Dakanalis et al., 2018; Field et al., 2012; Micali et al., 2014; Skinner et al., 2012; Sonnevile et al. 2013; Touchette et al., 2011).

The presence of depressive symptoms in adolescents with BED could be interpreted in two opposite but complementary ways. People with depressive symptoms may resort to binge eating as a form of emotional self-regulation, and / or having a BED may lead to the development of depressive symptoms (Sonneville et al. 2013; Skinner et al., 2012). An investigation carried out in a community sample of adolescents (Adamus-Leach et al., 2013), found an association between the presence of depressive symptoms and greater severity of BED symptoms. They concluded that binge eating would be more related to the person's mood, and they are an inadequate form of emotional regulation. Feelings of intense discomfort often precede binge episodes (Schag et al., 2013), and several researchers have suggested that binge eating may be considered a maladaptive strategy for coping with negative mood states (Ágh et al., 2015).

However, the study presents a series of limitations that must be taken into account. The sample has been selected using a non-probability sampling method, and it is not an experimental study. One of the most important limitations of the study refers to the small sample size ($n = 21$). However, reviewing the few studies that currently exist that use clinical samples from adolescents with BED, they

usually do not have more than 40 patients (Schmidt et al., 2015). Likewise, there may be a lack of sincerity in the answers when using self-reports.

Without a doubt, one of the future lines of research in this field would be to expand studies with clinical samples of adolescents with BED. We consider that the evaluation of possible risk factors, predictors or preventives, as well as the comorbidity of BED cannot be based on studies with population samples, which assess the presence of BED through a self-applied questionnaire. Establishing a diagnosis of BED in adolescents is not something simple, and should be carried out by a specialist in the subject, a psychiatrist or clinical psychologist. Future research could replicate this research with larger clinical samples, and consider other types of variables that could be related to BED in adolescents, such as impulsivity or emotional regulation (Dingemans et al., 2017).

In conclusion and based on the implications for clinical practice applied to the study, it is worth outstanding the importance of taking into account the psychopathological comorbidity exhibited by this type of patient in both evaluation and treatment. We believe that equipping these patients with emotional regulation and anxiety management strategies could be beneficial for these patients who often resort to binge eating as an inappropriate strategy for managing emotional distress.

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