

## Empathy, depression, anxiety and stress in Brazilian Health Professionals

### Empatia, depressão, ansiedade e estresse em Profissionais de Saúde Brasileiros

### Empatía, depresión, ansiedad y estrés en Profesionales de la Salud Brasileños

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**Abstract:** The present study investigated the relationships among empathy, depression, anxiety, and stress among Brazilian Health Professionals (BHP). Two hundred participants (87% women), aged 22 to 67 ( $M = 35.1$ ;  $SD = 9.7$ ) responded the Interpersonal Reactivity Index (Davis, 1983), the Stress Symptoms Inventory (Lipp, 2000), the Beck Depression Inventory, and the Beck Anxiety Inventory. Positive correlations among depression, anxiety and stress were found, as well as among anxiety, depression, personal distress and fantasy. Regression analysis indicated that the cognitive aspects of empathy can predict symptoms of depression. Overall, results suggest that empathy can be associated with the Mental Health of the BHP. The paper discusses the need to be attentive for this specific relationship, considering its importance for professional practices of these workers, as well as for research on the field of Psychology of Health and other related fields.

**Keywords:** anxiety; depression; stress; empathy; health professionals

**Resumo:** O presente estudo investigou as relações entre empatia, depressão, ansiedade e estresse em profissionais de saúde brasileiros. Duzentos participantes (87% mulheres), com idades entre 22 e 67 anos ( $M = 35,1$ ;  $DP = 9,7$ ) responderam o Índice de Reatividade Interpessoal (Davis, 1983), o Inventário de Sintomas de Estresse (Lipp, 2000), o Inventário de Depressão de Beck e o Inventário de Ansiedade de Beck. Foram observadas correlações positivas entre depressão, ansiedade e estresse, assim como entre ansiedade, depressão, angústia pessoal e fantasia. A análise de regressão indicou que aspectos cognitivos da empatia podem prever sintomas de depressão. De forma geral, os resultados sugerem que a empatia pode estar associada à Saúde Mental dos profissionais de saúde. Discute-se a necessidade de estar atento a essa relação específica, considerando sua importância para a prática profissional desses trabalhadores, assim como para pesquisas na área de Psicologia da Saúde e outras afins.

**Palavras-chave:** ansiedade; depressão; estresse; empatia; profissionais de saúde

**Resumen:** El presente estudio investigó las relaciones entre empatía, depresión, ansiedad y estrés en Profesionales de la Salud Brasileños (PSB). Doscientos participantes (87% mujeres), de 22 a 67 años ( $M = 35.1$ ;  $DE = 9.7$ ) respondieron el Índice de Reactividad Interpersonal (Davis, 1983), al Inventario de Síntomas de Estrés (Lipp, 2000), al Inventario de Depresión de Beck y el Inventario Beck de Ansiedad. Se observaron correlaciones positivas entre la depresión, la ansiedad y el estrés, así como entre la ansiedad, la depresión, la angustia personal y la fantasía. El análisis de regresión indicó que los aspectos cognitivos de la empatía podrían predecir los síntomas de la depresión. En general, los resultados sugieren que la empatía podría estar asociada con la Salud Mental de PSB. Se discute la necesidad de estar atento a esta relación específica, considerando su importancia para las prácticas profesionales de este público, como para la investigación en Psicología da Salud y otros campos relacionados.

**Palabras clave:** ansiedad; depresión; estrés; empatía; profesionales de la salud



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Among the ten main causes of impairment in the world investigated by the World Health Organization (WHO), five are associated with Mental Disorders, notably depression (13%), followed by alcohol abuse (7%), affective disorders (3.3%), and obsessive-compulsive disorder (2.8%). Developing countries, such as Brazil, present a high prevalence of mental health conditions in primary health care. These are reflected in the high rates of Mental Disorders, mainly anxiety and depression (Carlotto, 2016; Gonçalves et al., 2014; Margis, Picon, Cosner & Silveira, 2003).

There are no comprehensive epidemiological studies to determine the actual magnitude of Mental Disorders in the Brazilian population (Aquino, 2012). Nonetheless, it is known that anxiety and depression are known to be listed as major psychiatric syndromes, i.e., are part of the highest mental sufferings affecting individuals in Brazil (Dalgalarondo, 2008).

Anxiety is defined as an emotional state of expectation before the possibility of something bad about to happen (Alves, 2012). It is considered to be a disorder when its levels are excessive or long-lasting (American Psychiatric Association, 2013), when they can be classified in two major groups: constant/permanent anxiety and abrupt anxiety crises, more or less intensive (Dalgalarondo, 2008). Many factors can trigger anxiety, ranging from brain chemical imbalances, personality traits, genetic vulnerability, and traumatic events (Mangolini, Andrade & Wang, 2019). The DSM 5 describes depression as an affective disorder where the most evident elements are sadness, feelings of emptiness, or irritable humor, followed by somatic and cognitive changes that significantly affect the individual's capacity of functioning. Today, it is managed as a priority public health issue, as it is the first cause of impairment all over the world (World Health Organization, 2017).

Depression can be either episodic or a disorder, and the latter is a recurring manifestation of the former. It is worth mentioning that the anxiogenic and depressive symptoms can occur simultaneously, while disorder starts being considered as mixed. In this case, none of the syndromes is serious enough to constitute a closed diagnosis (IDC-10, 1993).

Stress is typically associated with depression and anxiety disorders, being usually identified as a dysfunctional reaction when excessive, that individuals present when they have to deal with a challenging situation (Adriano, Almeida, Ramalho, Da Costa, Do Nascimento & Moraes, 2017; Godoy, Rossignoli, Delfino-Pereira, Garcia-Cairasco & Umeoka, 2018). This reaction is constituted by physical and psychological components. The most common physical symptoms are: increased sweating, fatigue, headaches, insomnia, pain in the body, palpitations, grinding of teeth, bowel changes, nausea, shaking, cold extremities, and constant cold (Costa & Pinto, 2017). Among

the psychiatric symptoms, the highlights are reduced concentration and memory, indecision, confusion, loss of sense of humor, anxiety, difficulty to relax, nervousness, depression, anger, frustration, worry, fear, irritability, impatience, desire of abandoning everything, and distress (Fabri et al., 2018; Ferreira & De Martino, 2006; Leão et al., 2017).

Specifically regarding the Brazilian context, previous works show the presence of sleep disorders, high frequency of anxiety and depression-related disorders, and high levels of stress among physicians, nurses and other health professionals (Ferreira & De Martino, 2006; Batista & Bianchi, 2006; Moura, Lunardi, Volpato, Nascimento, Bassos & Lemes, 2018; Santos & Cardoso, 2010).

For example, the study conducted by Lourenção, Teixeira, Gazetta, Pinto, Gonzalez and Rotta (2017) demonstrated that resident physicians in the first year of training tended to experience symptoms of depression and anxiety disorders, and the existence of a relationship between anxiety and the desire to give up the residency program. Other studies point that specifically for nurses, the factors that trigger stress and depression may be associated with the workplace, such as the sector, shift, service overload, but also to factors such as sex, age, housework load, family support and income, added to other individual characteristics (Ferreira & De Martino, 2006; Pereira et al., 2017; Schmidt, Dantas & Marziale, 2011). Regarding this last point, the attributional style of each individual is pointed out as the main factor that predisposes diseasing, as the negative events of life are interpreted as under their control and responsibility, in addition to the overestimation of these. Moreover, negative events are vested in a character of durability and persistence in the minds of individuals suffering from depression, leading them to a state of omnipotence (Alves, 2012).

Marchi, Bárbaro, Miaso and Tirapelli (2013) administered the Beck Anxiety Inventory (BAI) to a sample of 308 nursing students from a Brazilian public university and found that 30% of the participants presented a minimum degree of anxiety, 34% presented mild anxiety, 24% moderate anxiety, and 12% anxiety considered serious. The authors point out the routine of studies, new experiences in the clinical field, and confrontation with death as possible explanations to the mild and serious anxiety levels. In another study where the BAI was administered to a sample of 211 nurses, the prevalence of anxiety was 31.3% (Schmidt et al., 2011).

These scientific evidences point to the impact of the everyday demands to which health professionals are subjected - dealing with extreme situations of care and having to bear with the others' suffering - can have on their own mental health. Not only aspects related to external conditions, as constitutional factors also influence the onset and worsening of psychiatric disorders (Fernandes, Falcone & Sardinha, 2012).

It would be reasonable to propose hypotheses that associate social competences, such as empathy, to stronger skill to handle with one's own negative feelings triggered by the observation of the others' suffering. This assumption is supported by evidence that showed that cognitive and affective components of empathy are crucial for the subject to be able to understand the emotional states of the others, and to vicariously share these experiences (Berliner & Masterson, 2015). Moreover, the behavioral components of empathy (expressions that inform on the understanding of the other's emotional state) allow individuals to more efficaciously work on the factors that cause the other's suffering (Falcone, 2015). This could be especially relevant for health professionals.

Previous studies that support these assumptions showed that the compromised development of empathy has been related to difficulties in managing anger, personality disorders,

and chronic anxiety (Falcone, 2015). Moreover, evidence point out to links between anxiety, depression, and reduced empathic behavior among health professionals (Bordin et al., 2019). Hence, Schreiter, Pijnenborg and Rot (2013) suggest that poor empathic skills would be one of the reasons why individuals with depression experience losses in their social functions. Based on a broad literature review, the authors found that the cognitive components of empathy are damaged in depressive individuals, while empathic distress (affective component related to experiences of suffering, and distress experimented in the self) would be high. This higher level of empathic distress is associated to the behavior of detaching from and avoidance of social interactions, found in individuals suffering from depression.

In line with these data, the study by Alves (2012) with university students found that higher levels of personal distress were associated with higher levels of depression and anxiety, while lower levels of perspective taking were more frequently found in participants with higher prevalence of depressive symptoms than in individuals with low prevalence.

In a different perspective, Barbosa, Raymond, Zlotnick, Wilk, Toomey and Mitchell (2013) showed that a specific training to develop empathy can contribute to reduce anxiety and increase empathy in students from courses in the field of health. This is why some authors suggest that empathy could serve as a kind of protection to mental health factor, influencing how people assess their work context, and handle with stressing situations (Lee, Brennan & Daly, 2001).

Therefore, knowing how mental health can be related to empathy is relevant, considering that such knowledge could contribute to the development of more efficacious strategies of health promotion. More specifically concerning professionals in the field of health, this understanding could guide their practice, in order to provide more efficacious and humanized services. Moreover, the implementation of evidence-based strategies can lead to increased quality of services delivered to the population in the health care network, in addition to the benefits entailing to the professionals.

Considering the aforementioned, this study adopted the perspective that empathy is an important component of life in society, as it allows sharing affective experiences, and taking the perspective of those surrounding us. As established in literature, this component plays a core role on how individuals relate to one another and with the social environment (Eisenberg, Fabes & Spinrad, 2006; Hoffman, 2007), promoting enhanced engagement in prosocial behaviors (Paciello, Fida, Cerniglia, Tramontano & Cole, 2013; Wang, Wang, Deng & Chen, 2019). Therefore, this study tries to assess the relationship between empathy, anxiety, stress, and depression among professionals working in the health care networks of a municipality in the interior of the Brazilian Northeast region. Furthermore, it verified to which extent the dimensions of empathy could be used as predictors of anxiety and depression.

## Method

### *Participants*

Two hundred twenty-one professionals working in the public health care network in the municipality of Petrolina (PE), Brazil, for at least two years, and who agreed to answer the instruments, participated in the survey. Yet, data analysis used only the protocols of 200 participants (87% women,  $n = 174$ ), with ages ranging from 22 and 67 years ( $M = 35.1$ , and  $SD = 9.7$ ), as some instruments were not completed, and some potential participants gave up during data collection.

Concerning profession, 43% were practical nurses ( $n = 86$ ), 37% were nurses ( $n = 75$ ), 16% were physicians ( $n = 32$ ), and 3.5% were odontologists ( $n = 7$ ). Of these, 47% worked in hospitals ( $n = 94$ ), 22.5 % at Basic Care Units ( $n = 45$ ), 9% in Urgency Mobile Health Care (SAMU) ( $n = 18$ ) and 21.5% in other places ( $n = 43$ ). Regarding the labor regime, the majority (50.5%;  $n = 101$ ) stated to be at day shift, 30% ( $n = 60$ ) stated to work on duty, and 37% ( $n = 74$ ) said to have both labor regimens. Regarding the number of hours worked a week, 51.6% ( $n = 103$ ) declared to work up to 40 hours a week, and the remaining professionals assumed workloads that ranged up to 168 hours a week.

### *Instruments and materials*

Empathy was measured using Davis' (1983) Interpersonal Reactivity Index (IRI). The IRI is a self-assessment instrument made up by 28 items distributed in two cognitive dimensions (Perspective Taking and Fantasy) and two affective dimensions (Personal Distress and Empathic Concern). Perspective Taking corresponds to the capacity of wearing the other's shoes, taking on their viewpoint. Fantasy involves a similar capacity, but applied to fictional characters of films, soap operas and books. Personal distress refers to a kind of sympathetic feeling experienced in the self as a negative experience, that causes nuisance and discomfort in the own individuals when facing suffering or misfortune of someone else. Finally, Empathic Concern is defined as a type of feeling that leads the individual to engage in actions to reduce the condition that causes suffering or misfortune to the person with whom the individual is empathetic. This study used the IRI version adapted in Brazil and validated by Sampaio, Guimarães, Camino, Formiga and Menezes (2011), which has only 26 items.

To investigate symptomatology of stress in participants, the Lipp's inventory of symptoms of stress for adults (ISSL) was used. The inventory comprises 37 items that correspond to somatic symptoms, and 19 of psychological nature, organized in three charts that allow ranking the different stages of stress. The first chart has 15 items referring to physical or psychological symptoms experienced by the respondent over the last 24 hours. The second chart comprises 10 physical symptoms and 5 psychological symptoms that could have been experienced over the last week. The third chart comprises 12 physical symptoms and 11 psychological symptoms and refers to symptoms experienced over the last month. Stress can be classified as present or absent, and when it is present the stage of its symptoms (alert, resistance, quasi-exhaustion, an exhaustion) is verified.

Depression and anxiety were assessed through the Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI), respectively, both developed by Beck and collaborators. The BDI is an instrument that comprises 21 items that relate to symptoms present in depression (behavioral, cognitive, affective, and somatic) that allow ranking the disease as Minimum, Mild, Moderate or Serious. The BAI, in turn, comprises 21 items referring to common symptoms in conditions of anxiety. It asks respondents to show to which extent they were affected by each symptom over the last week, in a 4-point scale ranging from 0 (no) to 3 (seriously). The BDI total score ranges from 0 to 63, based on the sum of items. Anxiety can be classified as Minimal, Mild, Moderate or Serious. This study used the BDI and BAI versions adapted by Cunha (2001) to the Brazilian population.

In addition to these instruments, participants have also completed a questionnaire with questions about their environment and work routine, and sociodemographic data.

### *Data collection procedures*

The scales and questionnaires were bound in a single volume of 12 pages, with the instruments organized in the following order: first, the Informed Consent Term, followed by the BAI, BDI, IRI, ISSL scales, and the sociodemographic questionnaire. Researchers approached the participants in their workplace, explained the study and, when participants agreed to participate, they decided the best time for data collection. Instruments were completed individually, at the site and times more convenient to respondents.

All procedures adopted in this study followed the ethical precepts required by the resolution 466/2012 of the Brazilian Health Council (*Conselho Nacional de Saúde*) and resolution 016/2000 by the Federal Council of Psychology (*Conselho Federal de Psicologia*). The project was approved by a Committee of Ethics in Research with humans (protocol n.º 0014/131113 CEDEP/UNIVASF).

### *Data analysis*

Data analysis involved the use of descriptive statistics (percentage, means, and standard deviations), and of inferential tests such as Analysis of Variance and Pearson's Correlation Test, to assess the relationship between the main variables of the study. Moreover, Multiple Regression Analyses were performed to test the predictive power of empathy on Anxiety and Depression. For all tests, the maximum value of significance adopted was 5% to reject the null hypothesis. The SPSS (version 20) software was used to perform the statistical analyses.

## **Results**

Concerning mental health indicators, 23% of the participants were classified in the mild anxiety level, 8% in the moderate anxiety level, and 3% as serious anxiety. The other participants' scores corresponded to the minimum degree of anxiety. Regarding depression 23% of participants were classified in the mild level, and 7.5% in the moderate level. No serious case of depression was observed.

Regarding Stress responses, around 42% of the sample showed stress in some stage (alert, resistance, quasi-exhaustion, or exhaustion), and most were in the stage of Resistance (32%). Many participants reported symptoms above limits in more than one stage (Table 1). In that case, Lipp (2000) indicates that stress is worsening and shall soon worsen to the next stage, if no intervention is made. A Chi-square test indicated that mental health indicators did not significantly vary among the professional categories: ( $p > .005$ )

Table 1  
*Prevalence of Stress in the Sample*

CONDITION	<i>N</i> (%)
Non presence of stress	116 (58)
Resistance	64 (32)
Resistance / Exhaustion	8 (4)
Alert / Resistance / Quasi-exhaustion	6 (3)
Alert / Resistance	4 (2)
Alert	2 (1)
Quasi-exhaustion / Exhaustion	1 (0,5)
Exhaustion	1 (0,5)

Pearson's test indicated the existence of positive and statistically significant correlations between anxiety and depression, and between depression and stress, as shown in Table 2.

Table 2  
*Correlations between Mental Health Indicators and Empathy Dimensions*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Anxiety (1)	-							
Depression (2)	.51*	-						
Stress (3)	.29**	.51**	-					
Global empathy (4)	.18*	.17*	n.s.	-				
Perspective Taking (5)	n.s.	n.s.	n.s.	.66**	-			
Empathic Concern (6)	n.s.	n.s.	n.s.	.82**	.62**	-		
Personal Distress (7)	.29**	.24**	n.s.	.76**	.30*	.47**	-	
Fantasy (8)	.32**	.26**	n.s.	.79**	.30**	.49**	.97**	-

\*  $p < .05$ ; \*\*  $p < .001$ ; n.s. = non significant.

Specifically, regarding Empathy, Empathic Concern was the dimension with highest average score  $M = 4.10$ ;  $SD = 0.65$ ), followed by Perspective Taking ( $M = 4.06$ ;  $SD = 0.62$ ), Personal Distress ( $M = 2.80$ ;  $DP = 0.83$ ) and Fantasy ( $M = 2.73$ ;  $SD = 0.80$ ). To verify if there was

any difference in the indicators of Empathy by sex and professional category of participants, an ANOVA was performed, followed by a Tukey post-hoc test.

The results of these tests point out to the significant influence of the profession on the sub-dimension of Perspective Taking [ $F(3, 199) = 3.307; p = .021; \eta^2 = 0,04$ ], with physicians scoring lower ( $M = 3.76; SD = 0.67$ ) than practical nurses ( $M = 4.15; SD = 0.65$ ).

As expected, all Empathy dimensions are positively correlated to one another and with Global Empathy (Table 2). Moreover, it found positive correlations between Anxiety and Depression with Global Empathy, and positive correlations between Personal Distress and Fantasy with Anxiety and Depression.

To test to which extent the Empathy dimensions could be used as predictors of Anxiety and Depression, multiple regression analyses (stepwise method) were performed, having as dependent variables Anxiety and Depression, and Personal Distress, Perspective Taking, Empathy Concern and Fantasy as independent variables. The results presented in Tables 3 and 4 indicate that Anxiety was positively predicted by Fantasy, and inversely predicted by Perspective Taking, both explaining about 11% of the total variance found. Moreover, Depression was positively predicted by Fantasy and Empathy Concern, and inversely predicted by Perspective Taking.

Table 3

*Multiple Linear Regression to Predict Anxiety*

Variables	R	R <sup>2</sup>	F	Sig(F)	Beta	t	p
Fantasy	.35	.11	13.83	.00	.32	4.76	< .001
Perspective Taking				.00	-.15	-2.14	.034

Table 4

*Multiple Linear Regression to Predict Depression*

Variables	R	R <sup>2</sup>	F	Sig(F)	Beta	t	p
Fantasy	.35	.11	9.64	.00	.26	3.86	.002
Perspective Taking				.00	-.21	-2.97	.003
Empathic Concern				.00	.19	-2.4	.004

## Discussion

The results of this study support previous research (Aquino, 2012; Fabri et al., 2018; Moura et al., 2018; Santos & Cardoso, 2010) that highlight the prevalence of mental health conditions among the Brazilian professionals in the field of health. The prevalence of anxiety and depression can be considered as low (11% and 15%, respectively) when compared with other national studies (Schmidt, Dantas & Marziale, 2011). However, it is noticeable that almost half of the sample (43%) presented stress at some stage, mostly in the stage of Resistance.

The positive correlation between depression and anxiety also supports the literature that points out to a clinical relationship between depressive and anxiogenic processes in the population at large (American Psychiatric Association, 2013; Aquino, 2012; CID 10, 1993; Dalgalarrodo, 2008), and in samples of professionals and students in the field of health (Ferreira & De Martino, 2006; Forteney, Luchterhand, Zakletskaia, Zgierska & Rakel, 2013; Marchi et al., 2013; Mascarenhas, Roazzi, Leon & Ribeiro, 2012; Murofuse, Abranches & Napoleão, 2005; Ribeiro, Lemos, Alt, Marins, Corbiceiro & Nascimento, 2020; Schmidt, Dantas & Marziale, 2011). This relationship can be justified by the fact that these psychological conditions are similar, as both are formed from pathological schemes, full of negative feelings about the self, their future, and the world. This way, the individual ends up building and reinforcing negative representations about the self, and about individuals surrounding them, making their interpretation of reality biased by negative contents (Knapp & Beck, 2008; Alves, 2012).

On the other hand, a relationship between anxiety, depression and stress was expected, since literature points out similarities in the etiology of those disorders (Murofuse, Abranches & Napoleão, 2005), what was not observed in this study. This result is likely due to the fact that stress symptoms only start damaging the usual routine of individuals when they are in more advanced stages (Lipp, 2000; Mascarenhas et al., 2012). In this regard, it is worth recalling that most of the sample presented signs of stress, but to a low degree. This could indicate the presence of this condition among those suffering from depression and anxiety, but with an intensity that does not reach statistical significance when associated to other variables investigated.

These results reinforce the argument for the need of paying attention to the labor demands imposed on health professionals, from their academic training until they become part of the health care network. It is even more noticeable when one thinks about the social role assigned to those professionals, considering the poor Brazilian health system, what leads them to a lifestyle in which taking care of their own health is set aside.

Lifestyle is considered an important factor in the development of mental disorders, including depression, stress, and anxiety. It is worsened by the fact that when facing situations of powerlessness or failure, the negative events tend to be interpreted as more important than the positive ones. This makes individuals constantly blame themselves for what they did or did not do (Alves, 2012; Araújo Aquino, Menezes, Santos & Aguiar, 2003; Murofuse, Abranches & Napoleão, 2005).

Specifically, regarding the dimensions of Empathy, Empathic Concern scored higher, followed by Perspective Taking. In other words, participants have generally scored higher in empathic components directly associated with care with the other (Hoffman, 2007). This could be of special relevance to the working context of those professionals, who are demanded on everyday basis to handle the suffering and fragility of those seeking for their services.

Moreover, a significant association between the Perspective Taking dimension and the professional category of participants was observed, so that physicians scored less than practical nurses. This difference could be a reflex of the closer and continued contact that nurses develop in relation to their patients, which demands more sensitivity to their clinical conditions to provide them with more humanized care. On the other hand, the relationship between the physician and the patient, according to Barros, Falcone and Pinho (2011), since the beginning of health practice, seems to be built on a hierarchical model, which could reduce the sensitivity of that professional in relation to the patient. Moreover, the great fragilities of public health care network in Brazil in

face of the population's demands would make these professionals provide several short and superficial services in the same shift. This, in turn, could discourage the building of closer links with their patients.

In this regard, the way physicians provide care and treatment is challenged, with criticisms stating that physicians tend to be "colder" and "more distant" (Benevides-Pereira & Gonçalves, 2009; Nogueira-Martins, 2003). Aquino (2012), however, highlights that this behavior can be associated to the emotional load imposed on these professionals when they repeatedly face the suffering of the other. This could lead them to take a more distant and detached position in relation to their patients, as a way of psychological defense. One should also consider the work overload of physicians working in the Brazilian Unified Health System - SUS (Santos, Alves, Souza, Queiroz & Castanho, 2012), which would contribute even more to the depersonalization of those individuals served by these professionals.

Confirming the main hypothesis of the research, the existence of relationships among anxiety, depression, stress and empathy was evidenced, with the components of this last variable expressing predictive capacity on the onset of signs of anxiety and depression. Previous studies demonstrated that the higher the levels of stress, depression and anxiety, the lower the levels of empathy (Aquino, 2012; Benevides-Pereira & Gonçalves, 2009; Bordin et al., 2019; Pacheco, 2013), and that lower scores in empathy measures would be associated to low performance in social skills and prosocial behaviors (Pavarino, Del Prette & Del Prette, 2005; Wang, Wang, Deng & Chen, 2019).

The relationships among anxiety, depression and stress with personal distress can be explained by the fact that in this empathic dimension the prevailing factors are negative feelings of nuisance, perturbation and discomfoting experiences in the self, when the individual faces the other's suffering. Therefore, individuals with more intensive personal distress would be prone to suffering more with the establishment of depressive and anxiogenic conditions, as the mental representations associated to self and involving negative contents would be reinforced. Thus, in face of a situation where the other needs help, individuals with symptoms of stress, anxiety and depression would tend to focus more on their suffering, thus hindering the mobilization of the behavior of helping the other.

In this sense, Hoffman (2007) calls attention to the fact that, in face of situations in which empathic distress is high to the point of becoming unbearable, the individual loses the capacity of perceiving the other's needs and becomes more selfish, having difficulty to differentiate and control their own emotions. Therefore, this empathic overload would reinforce the anxious and depressive symptoms because, as the study by Batson, Fultz e Schoenrad (1987) indicates, high intensity of the feeling of empathic distress is usually associated to more selfish attitudes and behaviors of avoidance to cease the nuisance experienced by the self.

The observed correlation among Fantasy, Depression and Anxiety is in line with what the study by Alves (2012) found. This work also found that individuals with high index of Fantasy also presented high levels of anxiety. This relationship can be justified because Fantasy involves the subject's capacity of imagining, in relation to fictional characters. In the event of anxiety and depression, the individual builds on negative imaginative schedules that are not effectively related to reality but would be "fictional" representations of something that exist only in their minds. This way, the image the individuals builds about themselves is influenced by negative mental representations they have about their own self.

Moreover, people with high level of anxiety tend to envisage situations that have not yet happened (Heimberg & Magee, 2016), what could lead to a state of distress and suffering only by imagining what could happen. In other words, the anxiogenic state would make people more prone to suffering with situations projected in their imaginary.

An important datum to be observed is that the Perspective Taking inversely predicted anxiety and depression, as this empathic dimension demands individuals to take on the other's viewpoint, trying to understand their inner states and social reality. Therefore, one could assume that more developed Perspective Taking could help the individual to regulate the emotional intensity of empathic experiences. The Perspective Taking could also be damaged in individuals with anxiety and depression disorders, as they tend to keep focus on the self, what would hinder understanding the other's suffering (Alves, 2012).

In relation to the prediction model involving Empathic Concern, one could raise the hypothesis that prosocial motivation ensuing from the empathetic feeling has some costs to the individual, as the more intensive its expression, the more likely is that the individual is not capable of putting that motivation in practice (considering the situations to which health professionals are subjected), what would bring about frustration and increase the chance of depression. This hypothesis would reinforce the theory about the need for health professionals to block compassion to the other, so they are not stricken by the frustration produced in face of the population's suffering, and the impossibility of solving structural problems inherent to their profession and to the Brazilian scenario.

### **Final remarks**

Generally speaking, the study has some limitations such as, for example, the fact that a convenience sample was used and, although the number of participants allowed the use of inferential statistics, there was no balance between female and male participants, neither among the number of participants from each professional category. Hence, it would be recommended that in further studies the number of participants of the different professional groups could be increased to deepen comparative analyses.

Based on the results found, it is also recommended that future investigations try to understand the role that other constitutional factors, such as resilience and personality traits play to cope with occupational stress in health professionals, and its association with empathy. The investigation of these aspects would allow answering questions not empirically responded yet, concerning not only the field of Health Psychology, but also other fields such as Human Development and Social Psychology. Moreover, new studies could provide more inputs that allow directing the strategies of intervention oriented to promoting health among these professionals, in order to act on variables that impact has been scientifically demonstrated on mental health.

In general, the data from this study could be used to design strategies to foster the development of more mature empathetic skills, so that when facing the other's suffering, the professional can cognitively move the focus from their own discomfort, hence issuing behaviors of help, with no damages for them. The implementation of strategies for that purpose, since the academic training period of health professional, could entail benefits not only to their mental health in the future, but also to the quality of the services they provide to the population.

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