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# The Effect of Acceptance and Commitment Therapy Training on Psychological Flexibility and Stress Coping Skills in Bartın State Hospital Health Care Workers: A Experimental Research

Bartın Devlet Hastanesi Sağlık Çalışanlarında Kabul ve Kararlılık Terapisi Eğitiminin Psikolojik Esneklik ve Stresle Başa Çıkma Becerileri Üzerindeki Etkisi: Deneysel Çalışma

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This study was oral presented as an at 9th The International TURKCESS Education and Social Sciences Congress, May 18-20, 2023, İstanbul, Türkiye.

ABSTRACT Objective: This study aims to investigate the effect of Acceptance and Commitment Therapy (ACT) Training on psychological flexibility (pf) and stress-coping skills in Bartın State Hospital health workers. Material and Methods: The participants of this study consisted of 38 (33 female, 5 male) people who voluntarily agreed to participate in the study among the nurses working in the emergency health department of Bartin State Hospital. The Informed Consent Form, Demographic Information Form, Ways of Coping Inventory, and Psychological Flexibility Scale were used to collect data. Dependent samples t-test analysis was applied to examine the effect of the training program. Pearson correlation analysis was applied to examine the relationship between pf and the sub-dimensions of the stress coping styles. The distribution of demographic data was also examined with frequency analysis. Results: According to findings of this study, pf and the use of functional stress coping styles of the participants increased after the training program. Conclusion: As a result, this psychoeducation program was to be carried out with the ACT model, which aimed to increase the ability of individuals to explain themselves independently of their problems and personal experiences, to stay in the present moment, to discover the values that are important in their lives, to gain the ability to change their behavior according to the conditions, play an effective role in improving the use of functional coping skills of healthcare professionals.

Keywords: Acceptance; acceptance and commitment therapy; stress coping; psychological flexibility; health workers ÖZET Amaç: Bu çalışmanın amacı Kabul ve Kararlılık Terapisi (KKT) Eğitiminin Bartın Devlet Hastanesi sağlık calısanlarında psikolojik esneklik (pe) ve stresle başa çıkma becerileri üzerine etkisini araştırmaktır. Gereç ve Yöntemler: Bu çalışmanın katılımcıları, Bartın Devlet Hastanesi acil sağlık bölümünde çalışan hemşirelerden çalışmaya katılmayı gönüllü olarak kabul eden 38 (33 kadın, 5 erkek) kişiden oluşmaktadır. Verilerin toplanmasında Bilgilendirilmiş Onam Formu, Demografik Bilgi Formu, Başa Çıkma Yolları Envanteri ve Psikolojik Esneklik Ölçeği kullanılmıştır. Eğitim programının etkisini incelemek için bağımlı örneklemler t-testi analizi uygulanmıştır. Pe ile stresle başa çıkma tarzlarının alt boyutları arasındaki ilişkiyi incelemek için Pearson korelasyon analizi uygulanmıştır. Demografik verilerin dağılımı da frekans analizi ile incelenmiştir. Bulgular: Bu çalışmanın bulgularına göre, katılımcıların pe ve işlevsel stresle başa çıkma tarzlarını kullanma düzeyleri eğitim programı sonrasında artmıştır. Sonuç: KKT modeli ile yürütülecek olan bu psikoeğitim programının, bireylerin kendilerini sorunlarından ve kişisel deneyimlerinden bağımsız olarak açıklayabilme, şimdiki anda kalabilme, yaşamlarında önemli olan değerleri keşfedebilme, davranışlarını koşullara göre değiştirebilme becerisi kazanabilme, stresle başa çıkmada etkili bir rol oynayabilme ve stresle başa çıkma tarzlarını kullanabilme becerilerini artırmayı hedeflediği söylenebilir.

Anahtar Kelimeler: Kabul; kabul ve kararlılık terapisi; stresle başa çıkma; psikolojik esneklik; sağlık çalışanları

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In the research, it has been determined that 22 occupational groups in the world are exposed to intense stress.<sup>1</sup> Doctors and nurses, who constitute the sample of our research, are among them. Health institutions are places where fault tolerance is lower compared to other institutions. In these institutions, where various stress factors occur, even the smallest mistakes can have irreversible consequences that can lead to death. This situation increases the stress level of health workers. Camkerten et al. found that doctors and nurses suffer from more stress, anxiety, and depression compared to other occupational groups.<sup>2</sup> According to another study, the risk of health workers being sued for the service provided, heavy workload, the attitudes of the patients, insufficient resources, bullying from co-workers, fear of being exposed to violence, lower-superior relations, role conflicts with different occupational groups, low work control, rotating work system, infection transmission risks, etc. lead to work-related stress.<sup>3</sup>

#### Coping with Stress

The concept of coping is defined as individuals' reactions to stress factors and the way they handle these factors.<sup>4</sup> In other words, it is also defined as cognitions and actions used to manage the factors that cause stress and the situations that arise in the face of these factors.5 Emotion-oriented coping and problemoriented coping are generally used coping methods.<sup>6</sup> Emotion-focused coping involves activities in which the individual strives to change their internal responses to stressors.7 It also includes cognitive strategies such as avoidance, distancing, positive comparisons, reduction, obtaining positive values in the face of negative, accepting responsibilities, and controlling themselves.<sup>8</sup> It is known that individual differences like personality traits, and/or social relations affect reactions of individuals to stress that they use adaptive or maladaptive coping strategies.9 It will be difficult to eliminate organizational stress without solving individual problems and it is necessary to ensure individual stress management in the first place.

#### Psychological Flexibility

Psychological flexibility is a variable that is thought to have a highly influential effect on the ability of healthcare workers to cope with the stressful conditions to which they are exposed. People with low psychological flexibility (pf) have tendency to use avoidance-based coping strategies and more psychological problems like substance use.<sup>10</sup> In concept, pf is described as a general or advanced capability to respond effectively to the requirements of different situations, all while striving for long-term goals. This ability enables the selection of suitable coping responses in accordance with the specific circumstances.<sup>11</sup>

Individuals who have a high level of pf can adapt more easily to events beyond their control, are more decisive in continuing their behaviors and people act by their values by taking themselves as a guide when there are behaviors that need to be changed.<sup>12</sup> In addition, pf is the individual's realistic perception of the present moment without consciously establishing it in his mind, behaving in line with the values they have, or changing their existing behaviors as required by the situation they are in.<sup>13</sup>

It was found that pf plays an important mediator role in situations where context-appropriate stresscoping responses are given.<sup>14</sup> Psychological flexibility is highly correlated with coping competence because it is multifaceted, that is, it contains six basic processes.<sup>15</sup> Individuals with high pf exhibit new behaviors in a way that is suitable for new conditions that they need to adapt to.<sup>16</sup> In other words, individuals with high pf can maintain their existing behaviors or develop new behaviors in some situations. Being open to experiences, conscious, and exhibiting behaviors in line with their values will also increase the quality of life.

#### Acceptance and Commitment Therapy (ACT)

ACT aims to improve the lives of people who face various problems throughout their lifespan and to make their lives richer, fuller, and more meaningful.<sup>17</sup> This model teaches people to reconsider the problems with a flexible and different perspective instead of avoiding or ignoring the problems they face.<sup>18</sup> In this regard, ACT plays a guiding role for individuals to find the things they value in their lives and to act in line with these valuable things they find.<sup>19</sup>

This therapy model is aimed not to completely remove the existing problems of the individuals from their life, but on the contrary, to understand the meaning of the problems in the life of the individuals.<sup>20</sup> In this regard, ACT helps the client (1) to accept their distressing thoughts and feelings, (2) to increase their ability to contact with the present moment, (3) to realize their contextual self and observer selves, (4) to use cognitive defusion methods to inhibit the thought elements that cause problems, (5) to determine the values of the individual in different fields and (6) to enable them to take effective and determined activities regarding these values. These six basic processes play a major role in increasing pf.<sup>21</sup>

#### Cognitive Defusion

Cognitive defusion which is one of the core components and six basic processes of therapy, is the ability of individuals to define their thoughts, feelings, emotions, and memories as internal experiences rather than seeing them as facts about themselves and their environment. At the same time, cognitive defusion can be defined as keeping a distance between the thinker and his/her thoughts.<sup>22</sup> The main purpose of cognitive defusion is not to get away from thoughts and feelings that cause discomfort in individuals, but to minimize the effect of these distracting feelings and thoughts on the life of the individuals and to increase the quality of their life.<sup>15</sup> In this context, the purpose of cognitive defusion in ACT is to make people realize that thoughts are just a thought, not the only reality. This basic process helps individuals gain a new perspective and weaken the influence of their problematic thoughts, even if they remain the same.<sup>23</sup>

#### Acceptance

It expresses the willingness of individuals to accept what they have experienced in their lives as they are, without showing any pressure, without being defensive, and without trying to escape from them. This process ensures that people do not blame themselves for the problems they experience, do not try to change their inner lives and personal experiences, and have the desire to face their fears and problems while advancing in line with their ideals.<sup>24</sup> One of the most important points of acceptance is that individuals accept their thoughts, memories, sensations, and feelings as guests and allow them to come and go. Besides, acceptance gives freedom to people to make choices, act, and live the life they want.<sup>22</sup>

#### Contact with the Present Moment

It means becoming aware of what we can perceive with our five sense organs in the present moment and gaining a full awareness of our thoughts and feelings. The events we encounter in our daily lives can pull us away from the moment we are in. However, when it is learned to stay in the present moment, it is possible to learn to accept the obstacles encountered in the moment. The conscious awareness is that the thoughts, feelings, and emotions in life flow like a river and that the things experienced are only experienced in that moment.<sup>25</sup> This basic process is aimed at increasing conscious awareness of the things experienced at present, thus understanding what exactly the things experienced mean, and thus providing information at the point of continuing or changing the existing behavior.<sup>26</sup>

#### Contextual Self

One of the six basic processes described in the pf model and the hexagonal flexible model is the contextual self. The contextual self means that the individual has the consciousness of the person who is aware of their thoughts and feelings, without connecting with the content of them. In this way, individuals become aware that thoughts and feelings are temporary, but that their self as the person experiencing them remains the same.<sup>27</sup> While working on this process, it is aimed for individuals to gain awareness by experiencing that thoughts, feelings, and events are temporary, to accept that the state of consciousness is continuous with this awareness and that it is beyond the various inner experiences experienced, and to understand that despite these difficult thoughts and feelings, no damage occurs in their own right, that is, it continues to maintain its integrity.<sup>24</sup> The individual's self is likened to a train station. The station is always located at a fixed point, while trains come and go. Just like here, even though people experience different events, like the train station the self stays where it is. People should not evaluate themselves as a whole with the events they have experienced.

#### Values

It encompasses the dreams, preferences, and desires of people that are deep in them and very important to them. This basic process in ACT, primarily points to people's needs on the psychological axis, their awareness of the things that are meaningful to them in life, and their willingness to act in this direction. It is stated that the expression of values is not the things that need to be achieved or the goals that are intended to be achieved. The main emphasis is on the progress of individuals toward the direction in which they will lead their lives.<sup>28</sup> Individuals are enabled to discover their values by asking the question "What kind of life do you want to live?", "What are the things that you find meaningful and important in your life?<sup>25</sup>

#### Committed Action

This basic process is one of the important points that the ACT emphasizes. Committed action includes effective actions that are motivated and guided by the values that are important to people. It also involves flexible actions such as adapting easily in the face of difficult situations, maintaining an existing action, or making necessary changes to this action when necessary. This basic process is aimed to transform actions into value-oriented actions and to make these values sustainable.<sup>26</sup> When the behaviors of individuals are value-oriented, their psychological well-being and productivity increase.<sup>29</sup> The therapy process aims to enable individuals to maintain the values they care about in their lives and to transform them into behaviors.15

## MATERIAL AND METHODS

#### **RESEARCH GROUP**

The research group of this study consists of 38 (33 female, 5 male) nurses working in the emergency health department of Bartin State Hospital and who were selected based on 80% strength level, 95% confidence interval and 0.5 effect size by convenience sampling method. Participants who agreed to participate voluntarily to this study were asked to sign a written consent form according to the Declaration of Helsinki. Social and Human Sciences Ethics Committee approved this study (date: June 06, 2022, no: E 2022-SBB-0282,).

#### STUDY MODEL AND DESIGN

In this study, the "Single Group Pretest-Posttest" model without a control group, one of the quasi-experimental designs, was used to evaluate the changes in the ways of coping with stress and pf levels of the participants after the 8-session training program. This study was performed in accordance with the American Psychological Association Ethical Principles and its later amendments or comparable ethical standards.

#### **MEASURES**

In the collection of data, the Informed Consent Form, Demographic Information Form, Stress Coping Styles Scale, and Psychological Flexibility Scale created with Microsoft Forms were used.

Informed Consent Form: This has been prepared by the researchers to inform the participants about the research and to show that the participants decided to participate in the research with their completely free will.

Demographic Information Form: It has been prepared by the researchers to obtain some demographic information about the participant's age, occupational group, gender, marital status, number of children, income level, working time, etc.

Ways of Coping Inventory: The scale was developed by Folkman and Lazarus as the four-choice Likert-type scale.<sup>30</sup> The Turkish reliability and validity studies of the scale were conducted by Şahin and Durak with a 30-item form.<sup>31</sup> The scale consists of 5 sub-factors. These are; the self-confident approach (SCA), the optimistic approach (OA) seeking of social support approach, the submissive approach, and the helpless approach. The higher scores obtained from the self-confident, optimistic, and social support-seeking subfactors of the scale, the higher the use of effective coping strategies (problem-oriented/active). On the other hand, the higher scores obtained from the helpless and submissive subscales of the scale, the higher the use of ineffective, passive coping strategies (emotion-oriented/passive styles). The lowest score that can be taken from the scale is 30 and the highest score is 120. The Cronbach Alpha internal consistency coefficients were calculated as 0.64-0.73 for the helpless approach; 0.47-0.72 for the submissive approach; 0.62-0.80 for the self-confident approach; 0.49-0.68 for the optimistic approach and 0.45-0.47 for the social support search. In this study, Cronbach Alphas were calculated as 0.54 for the desperate approach; 0.85 for the submissive approach; 0.51 for the self-confident approach; 0.63 for the optimistic approach, and 0.80 for the social support search.

*Psychological Flexibility Scale:* Francis et al. developed this scale and Karakuş and Akbay adapted into Turkish.<sup>32</sup> The 7-point Likert-type scale comprised 28 items, assessing five factors: values and behavior in values, being in the moment, acceptance, self as context, and decomposition. The overall internal consistency reliability coefficient for the scale was 0.79. Sub-dimensions showed reliability scores of 0.84 for values and behavior in values, 0.60 for being in the moment, 0.72 for acceptance, 0.73 for self as context, and 0.59 for decomposition. Higher scores on the scale indicated greater pf. The study also calculated a Cronbach's Alpha value of 0.84.

#### Training Plan: ACT Based Psychoeducation Program

The aim of this program was to improve participants' skills in coping with stress and increase their pf. At the end of the training, it was expected that there would be a significant increase in the scores that the participants received from the functional coping styles sub-dimensions of the Stress Coping Styles Scale and the Psychological Flexibility Scale before the training. First, participants were given an Informed Consent Form and Demographic Information Form. To measure the pf and stress-coping skills of the participants Psychological Flexibility Scale and Ways of Coping Inventory were applied before the training.

Then, within the scope of the training program, psycho-training consisting of 8 sessions of 2 hours in total was given. Finally, to measure the effectiveness of the training, the Psychological Flexibility Scale and Ways of Coping Inventory were applied to the participants again at the end of the training. During the evaluation phase of the training, feedback and suggestions were received from the participants for the applied training.

At the same time, the averages of the total scores obtained from the Ways of Coping Inventory and the Psychological Flexibility Scale applied at the beginning and end of the training were compared with pretest post-test analyses to evaluate the effectiveness of the training.

#### ANALYSIS OF DATA

SPSS 13.0 (IBM, Armonk, NY, ABD) package program was used to analyze the data. First, skewness and kurtosis values were calculated for the assumption of normality. It was found that the skewness and kurtosis of the variables varied within the range of -2 and +2.33 So, it has been determined that the data had a normal distribution. Then, Dependent Samples t-test analysis was used to compare the scores of the participants from the pre-and posttraining scales to examine the effect of the training program. At the same time, Pearson correlation analysis was applied to examine the relationship between the sub-dimensions of the Psychological Flexibility Scale and the Ways of Coping Inventory. For the distribution of demographic data, frequency analvses were performed.

# RESULTS

Skewness and kurtosis coefficients were in the range of  $\pm 2$  and it was accepted that the data were normally distributed (Table 1).

The demographic characteristics of the participants are shown in Table 2.

TABLE 1: Normality analysis.							
	Statistics						
	SSSA	SA	OA	HA	SCA	PF	
Skewness	-1,030	,456	,221	-,064	-,467	,399	
Std. Error of Skewness	,383	,383	,383	,383	,383	,383	
Kurtosis	,830	-,433	,185	-,461	-,266	-,695	
Std. Error of Kurtosis	,750	,750	,750	,750	,750	,750	

SSSA: Seeking of Social Support approach; SA: Submissive approach; OA: Optimistic approach; HA: Helpless approach; SCA: Self-Confident approach; PF: Psychological flexibility.

<b>TABLE 2:</b> Distributions of demographic variables.						
				n	%	
Gender	Gender			5	13.2	
				33	86.8	
Marital state	Marital status			11	28.9	
		Single		26	68.4	
				1	2.6	
Education	Education			1	2.6	
		University		32	84.2	
		Master		5	13.2	
Having children		Yes		7	18.5	
		No		31	81.6	
Age	Min	Max	Average	Star	ndard deviation	
	22.00	44.00	28.78		6.20	

When Table 3 was examined, it was seen that participants' post-test mean scores of SCA, OA, SSSA sub-dimensions of Problem-Oriented/Active Coping styles of Ways of Coping Inventory (23.78 $\pm$ 4.38; 16.31 $\pm$ 3.28; 13.42 $\pm$ , 2.76) were significantly higher than the pre-test mean scores (16.71 $\pm$ 3.20; 11.36 $\pm$ 2.38; 10.60 $\pm$ 2.28). However, it was found that participants' post-test mean scores of

SA and HA sub-dimensions of Emotion-Oriented/ Passive Coping styles of Ways of Coping Inventory (10.84 $\pm$ 3.20; 15.34 $\pm$ 5.37) were significantly lower than the pre-test mean scores (15.13 $\pm$ 3.89; 19.73 $\pm$ 3.21). After the training program, the participants' skills in using functional/ active coping methods improved; their tendency to use non-functional/ passive coping methods decreased.

At the same time, it was found that the post-test mean scores (146.2 $\pm$ 20.15) of the Psychological Flexibility Scale were significantly higher than the pretest scores (105.15 $\pm$ 10.63). In this direction, it was found that the pf levels of the participants improved after the training program.

The scores that the participants got from the Psychological Flexibility Scale after the training was positively related to the SCA, OA, and SSSA sub-dimensions of the Ways of Coping Inventory. However, HA and SA sub-dimensions of negatively related to the EA and SDA sub-dimensions of the Ways of Coping Inventory were negatively related to the Psychological Flexibility Scale (Table 4). It can be said that when Psychological Flexibility scores in-

	n	Average	S	SD	t value	p value
SCA						
Pre-test	38	16.71	3.20	27	-7.23	0.000*
Post-test	38	23.78	4.38	37		
SA						
Pre-test	38	15.13	3.89	27	5.13	0.000*
Post-test	38	10.84	3.20	37		
łA						
Pre-test	38	19.73	3.21	07	4.26	0.000*
Post-test	38	15.34	5.37	37		0.000*
AC						
Pre-test	38	11.36	2.80	07	-6.65	0.000*
Post-test	38	16.31	3.28	37		
SSSA						
Pre-Test	38	10.60	2.28	07	-5.39	0.000*
Post- test	38	13.42	2.76	37		
۶F						
Pre-test	38	105.15	10.63	07	-10.89	0.000*
Post- test	38	146.21	20.15	37		

SCA: Self-Confident approach; SD: Standard deviation; SA: Submissive approach; HA: Helpless approach; OA: Optimistic approach; SSSA: Seeking of Social Support approach; PF: Psychological flexibility p<0.01\*

	lation values between   upport approach, Helple					king of Socia
	PF	SCA	OA	SSSA	НА	SA
PF	-					
SCA	0.69**	-				
OA	0.63**	0.89**	-			
SSSA	0.55**	0.42**	0.27	-		
HA	-0.57**	-0.51**	-0.49**	-0.35*	-	
SA	-0.49**	-0.26	-0.21	-0.39*	0.80**	-

p<0.05\*; p<0.01\*\*, SCA: Self-Confident approach; SA: Submissive approach; HA: Helpless approach; OA: Optimistic approach; SSSA: Seeking of Social Support approach; PF: Psychological flexibility.

creased, the tendency to use Problem Oriented/ Active Coping Styles increased, and Emotion Oriented/ Passive Coping Styles decreased.

## DISCUSSION

When the results of this study were examined, it was found that the ACT Training program organized for Bartin State Hospital healthcare professionals increased the participants' pf levels and their ability to use of functional stress coping skills (Table 2). In addition, the pf levels of the participants were positively related to the use of functional stress coping methods and negatively related to the use of non-functional stress coping methods (Table 3).

Psychological flexibility includes the ability of individuals to maintain activities in their daily lives, the ability to prevent dysfunctional thoughts, the ability to be in the moment, the ability to accept problems that are beyond their control of individuals, recognize the values that are important in their lives and move forward in line with these values.<sup>11</sup> It was found that an intervention based on ACT resulted in a decrease in stress levels. Individuals engaging in a self-help psychoeducation program grounded in ACT reported a decline in stress levels. Simultaneously, there was an elevation in their psychological well-being, linked to an enhanced level of pf. It can be considered that pf has a key role on coping competence.

ACT method provides individuals with the opportunity to use more functional coping skills in the face of traumatic events, difficulties, and crises they encounter by increasing their pf levels. During therapy, the therapist may focus on both the acceptance and self-awareness processes with interventions related to acceptance, cognitive defusion, contact with the present moment, contextual self, and behavioral processes with behavioral interventions related to contextual self, values, and committed action and contact with the present moment. In this way, the therapist will help the client to settle down by reinforcing their behaviors in line with their values, while at the same time, she/he will allow the reduction of the cognitive fusion that affects the client's behavior. So, pf increases. From this perspective, ACT therapy aims to prevent the negative thoughts and emotions of individuals from affecting their lives abnormally, to accept them as a guest, and to establish different and new relationships with thoughts and feelings.<sup>18</sup> When individuals can achieve these, they will have high pf.<sup>29</sup> In summary, it can be said that health workers experience a lot of stress and experience burnout when they do not use functional coping methods in stressful situations. However, it seems that if the pf levels of individuals are increased, their level of coping with stress can also be increased. It can be said that with the ACT therapy model, the pf of individuals will be increased and their level of coping with stress will also be increased.

An experimental study revealed a decrease in stress levels among participants in the intervention group compared to the control group, and this reduction in stress was linked to an increase in pf.<sup>34</sup> According to the results of studies, a decrease in stress levels was reported as a result of an intervention based on ACT. It was observed in this study that with increased pf, participants experienced a decrease in stress levels and an increase in psychological wellbeing.

# LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

The present study has several limitations. The research involved 38 nurses exclusively from the emergency health department of Bartin State Hospital, lacking an even distribution of participants across various demographics such as age and education level. Consequently, the generalizability of the findings to diverse groups with varying demographics is constrained. Future investigations should explore similarities and disparities among different genders and professions, including doctors and healthcare professionals in distinct departments. Additionally, the applicability of the results might be limited due to potential sample bias, given that participants were solely from Bartin. Subsequent studies should broaden their scope to encompass a more diverse range of regions when exploring the relationships among the variables considered in the current study.

## CONCLUSION

This psychoeducation program aimed to increase the ability of individuals to explain themselves indepen-

dently of their problems and personal experiences, to stay in the present moment, to discover the values that are important in their lives, to gain the ability to change their behavior according to the conditions, play an effective role in improving the use of functional coping skills of healthcare professionals. Instead of recommending specific coping methods in the face of current problems of health workers, it is aimed to help them get rid of the pressure of their internal dynamics containing negative emotions and thoughts to make their lives more meaningful and increase the quality of their lives.

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#### **Conflict of Interest**

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

#### Authorship Contributions

This study is entirely author's own work and no other author contribution.

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