



## EMOTIONAL PROCESSING AND STRESS IN STRESSFUL LABOR SECTORS: A CASE STUDY ON FOREX RETAIL TRADERS

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### ARTICLE INFO

**Received:**

03<sup>th</sup> Jun 2017

**Accepted:**

29<sup>th</sup> Nov 2017

**Available online:**

14<sup>th</sup> Dec 2017

**Keywords:** *Emotional Processing, Psychosocial Stress, Occupational Stress, Stressful Labor Sector, Forex Traders*

### ABSTRACT

Emotions and emotion regulation have been considered as major factors in coping with stress in social as well as occupational situations. One of the most stressful labor sectors is FOREX market in which traders, especially retail traders experience vast amounts of social and occupational stress day to day. This survey study aimed to determine the states and levels of stress as well as emotional processing among Iranian FOREX retail traders. 216 volunteer participants partook in the study and administered SRRS and EPS-25. Results revealed that almost all participants experienced severe levels of stress and gained high scores in malfunctioning of emotions. In addition, significant positive relations found between stress and Signs of Unprocessed Emotion (.84,  $p < .04$ ), Unregulated Emotion (.73,  $p < .04$ ), Avoidance (.73,  $p < .001$ ), Improvised emotional Experience (.75,  $p < .02$ ), and Total Emotional Processing Status (.63,  $p < .04$ ). It appears that in addition to being stressful, FOREX market have brought emotional malfunctioning for its labor force which shall be considered. There would be a great need to feature causal studies to identify the underlying mechanisms and provide these labor sector's employees with efficient coping/ adaptation strategies.

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**To Cite This Article:** Amir Mohammad Shahsavarani, (2017), "Emotional Processing and Stress in Stressful Labor Sectors: A Case Study on FOREX Retail Traders", *Pharmacophore*, **8(6S)**, e-1173884.

### Introduction

One of the most important issues of concern in the field of occupational health is stressful labor sectors. According to authorities, an increasing number of laborers in industrial countries complain about occupational stress and overwork. These sociopsychological factors have been found to be strongly associated with health problems such as insomnia, depression, fatigue, and burn-out syndromes, as well as with elevated risks of cardiovascular diseases. Only 5-10% of workers in developing countries and 20-50% of workers in industrial countries (with a few exceptions) are estimated to have access to adequate occupational health services. In even developed countries with high levels of standards, most of workplaces are not regularly evaluated for occupational health and safety e.g., [1, 2, 3, 4].

Among life situations, the workplace stands out as a potentially important source of stress purely because of the amount of time that is spent in this setting [5, 6, 7, 8, 9]. When the occupational stress occurs, it will directly affect the performance of worker and managers of the organization. Mostly, the occupational stress comes from the job that they are doing. Many people are not aware of the occupational stress that occurs in the organization and they do not care about occupational stress. They assume that occupational stress will only affect their performance of work, but it also affects their health via disturbing physiological and neuroanatomical functions and causing even sever conditions (like, cardiovascular and/or cerebrovascular problems) that can lead to death. If people not were aware about job stress, it will become worst such as suicide e.g., [10, 11, 12].

Forex market as labor sector is a live market in which any change in the trend of currencies can take place in each moment and the predictability of the market is usually low. While traders often experience highs and lows of trading, one factor is a constant threat: trader's occupational stress. Traders live under a high amount of stress in their daily lives. Of course, stress

is also experienced in the general population in high and unhealthy levels. But trader's occupational stress is manifested differently so it often goes unrecognized and, therefore, uncontrolled. This can affect a trader's health, trading capacity, and life. Trading may be one of the most stressful professions in today's world, but also one of the most rewarding. High levels of occupational stress is part of Forex trading and everyone who wants to trade Forex in a serious capacity needs to be able to handle the stress load as well as manage to reduce it. A trader's life is filled with uncertainty [13, 14, 15, 16].

In Forex trading work atmospheres, like all other social-occupational contexts, social support is mediated by emotional connectedness and communication. Emotions are thought to be the bridge of connecting humans' nonverbal and untold ideas with their colleagues as well as employers which plays a major role regulating human interactions within the work atmosphere to the extent that authors and researchers has given a causal role to emotion in health issues [17] Various studies have shown that the way people express/inhibit their emotions are clearly related to psychosomatic and psychosocial problems. This relation is mutual which means that emotional processing could result in problematic conditions and vice versa, the problematic conditions can lead to emotional disturbances. Authors have argued that emotional processing is a process by which affective and emotional disturbances would be regulated and reduced to the level that individual can experience and cope with the stressful situation effectively [18].

Emotions have great role on learning and memory processes, because of their influence on attentional mechanisms; any regulation and enhancement in emotions usually result in better attention and learning which can help individuals cope better with their stressful situations and become more flexible confronting with stress with their skills and resources [19, 20] The concept of emotional processing is comprised five major components Suppression, Unregulated emotional experience, Impoverished emotional experience, Signs of unprocessed emotions, and Avoidance. To the extend individuals are high in these components, they would experience more stress-related problems [21, 22, 23].

Studies have shown that emotional processing has a major role in reduction of stress and stress-related issues among nurses [18] female university students [24], school-aged students [20, 23], women [22] and recently, neuroanatomical findings support this relation [25, 26, 27, 28]. According to the searches, there is no report/paper about emotional processing status among Forex Retail traders, despite the stressful situation. This study aimed to investigate the features of emotional processing due to stress in this market sector to make a better understanding about roots of occupational stress among this labor force of exchange markets.

## **2. Method**

### **2.1. Design**

This study is a part of a study about Social Relations and Emotional Processing in Stressful Labor Sectors with an experimental design. The design of the present study, as a survey, is descriptive because of the aim of demonstrating the status of emotional processing within stressful labor sector.

### **2.2. Participants**

According to the aim of the present study, the population of the research consisted of all, Forex traders considered as those who are citizen of I.R. Iran, have at least 2 consecutive years of work experience in forex trading, had an account amount ranged between USD 500 to 5000 of their own and were trading by the study period. Regarding to the lack of information about Persian Forex traders in Iran in General and trading-for-self Forex traders in specific, there is not solid information about the total rate of this population.

With the use of accidental and snowball sampling [29] and regarding the study control variables, 308 forex traders (mean age=33.8, SD=3.9) have been reached (female=95, mean age= 33.4, SD= 3.1; male=213, mean age 34.5, SD= 4.1). However, just 216 of them agree to take part in the study (female=43, mean age= 33.2, SD=3.6; male=163, mean age=34.7, SD=4.2).

Control variables include having no pathological history of CNS; having no pathological history of visual system; having no kind of color-blindness (Assessed by Ishihara Test for Color Deficiency); having no history of Visual agnosia; having no history of encephalitis and other CNS diseases; having no current usage of medicine that affects visual & attentional systems; no history of drug dependency and/or drug abuse; having no current drug dependency and/or drug abuse; having no refraction defections; having no history of and/or current psychotic disorders (Schizophrenia, psychotic depression and etc.); and having no history of and/or current psychological and/or psychiatric disorder that affects attention. All the above issues were assessed via using a structured clinical interview and neuropsychological screening checklist designed by researchers. In addition, all the procedure administered between 3 and 7 pm in order to control the diurnal rhythms fluctuations.

### **2.3. Instruments**

**2.3.1. Demographic questionnaire:** This researcher-made questionnaire includes questions about age, religion, educations, socioeconomic stage, residence and neuropsychological control variables (e.g., handedness, eye dominance, colorblindness and having no disturbance or disorder in neurological & sensory systems related to executive functions; see control variables for a full list of these issues).

**2.3.2. Ishihara's tests for color deficiency:** In order to match subjects & reduce neuropsychological and perceptual dissonance among sample group, all the subjects were administered Ishihara's tests for color deficiency. This test consists of

a booklet in which there are 38 hand-painted colorful figures and with the administration of it according to instructions, it would be revealed if one any sort of colorblindness is exist [30]

**2.3.3. Emotional Processing Scale-25 (EPS-25):** In order to assess emotional processing in participants, Emotional Processing Scale EPS-25, [31] was used before and after the administration of Social Skills Training procedure as pretest and posttest of emotional processing assessment. This scale comprises 25 positive sentences. Respondents answer each item in a 10-part Likert scale (from 0: fully disagree, to 10: fully agree) which assesses emotional processing in five dimensions of Suppression, Unregulated emotional experience, Impoverished emotional experience, Signs of unprocessed emotions, and Avoidance as well as Total EPS score which indicated the total problems of emotional processing of respondent. [31] reported Cronbach's alpha of .84 for Suppression, .76 for Unregulated emotional experience, .82 for Improvised emotional experience, .85 for signs of unprocessed emotions, .74 for Avoidance, and .92 for Total EPS score. In addition, Internal consistency was high ( $\alpha > .80$ ) for three factors and moderate for two ( $\alpha > .70$ ). [21] have reported an acceptable factorial structure for the Spanish version of EPS-25 and overall internal consistency of  $\alpha = .91$ . The Persian version of the EPS-25, which was implemented in the present study has been reported to have desired and acceptable validity and overall Cronbach's alpha of .89 [32]

**2.3.4. The Social Readjustment Rating Scale (SRRS):** In order to assess the stress levels of the participants, The Social Readjustment Rating Scale (SRRS), which is also known as The Holmes and Rahe Stress Scale HRSS, [33] with Paykel's complementary life stress list [34, 35] was administered in the study. This scale contains 63 life events with different ratings of stress level as being the most common and stressful. Some of the events are traumatic whereas others would be pleasant and enjoyable. However, they are all require some change in a person's life to readjust to the situation. Participants should read the list and decide which items apply to them. Then, the sum of the scores would indicate the stress level. The reliability of the original scale was calculated with the Cronbach's alpha of .79 [36] and The Cronbach's alpha for Persian version was .94 and the scale evaluated as of a high validity to assess the stressful life event in Persian Population [37].

#### 2.4. Procedure

In order to gather the initial participants of the study, via using accidental and snowball sampling methods respectively, 308 forex traders (female= 95; male=213) have been reached in which 216 people were volunteered to participate in the study (female=43; male=173) and screened according to control variables, Ishihara Test for Colour Deficiency and demographic questionnaire and afterwards administered EPS-25 and SRRS. All the procedure held in one session for each of the participants.

#### 2.5. Ethics of Study

All the participants filled out written subscriptions. In order to satisfy the anonymity and secrecy of their privacy, all participants' personal data indicating any cue/trace to any issue of participants' identity have been excluded from the study documents. All the participants were remunerated for the participation. In addition, the results of the administration of instruments were reported to participants and been given professional advice to solve their problems individually, so that they could have the guide on how & where to resolve their own issues.

### 3. Results

Demographic indices of participants are presented in Table 1. The most accumulation of age is between 30-40 years with 76.4%. The vast majority of the Participants consists of male participants (80.1%), while female participants were just 19.9% of sample group. The most accumulation of educations is in Bachelor's Degree with 74.1%, while the least portion PhD with just 2.3% of total participants. The most accumulation of marital status is married with 56.9%, while the least portion is for widow/widower with just 3.2%.

**Table 1.** Demographic indices

	Frequency	Percent	Valid Percent	Cumulative Percent
<b>AGE</b>				
>30	38	17.6	17.6	17.6
30-40	165	76.4	76.4	94.0
40-50	11	5.1	5.1	99.1
50<	2	.9	.9	100.0
Total	216	100.0	100.0	
<b>Gender</b>				
Male	173	80.1	80.1	80.1
Female	43	19.9	19.9	100.0
Total	216	100.0	100.0	
<b>Educations</b>				
College	25	11.6	11.6	11.6
BS/BA	160	74.1	74.1	85.6
MS/MA	26	12.0	12.0	97.7

PhD	5	2.3	2.3	100.0
Total	216	100.0	100.0	
<b>Marital Status</b>				
Single	61	28.2	28.2	28.2
Engaged	16	7.4	7.4	35.6
Married	123	56.9	56.9	92.6
Divorced	9	4.2	4.2	96.8
Widow(er)	7	3.2	3.2	100.0
Total	216	100.0	100.0	

Results of administration of Emotional Processing Scale (EPS-25) on all participants are presented in table 2. According to the table, descriptive indices of Suppression are  $m=5.52$  and  $SD= 1.17$ , Signs of Unprocessed Emotion  $m=5.48$  and  $SD=.96$ , Unregulated Emotion  $m= 5.57$  and  $SD=1.00$ , Avoidance  $m=5.59$  and  $SD=.91$ , Impoverished Emotional Experience  $m= 5.7$  and  $SD= .89$ , and for the total emotional processing status (EPS TOTAL)  $m=5.57$  and  $SD=.85$ . The reliability indices for EPS-25 show a high level of reliability for overall test with Cronbach's alpha of .94 and Guttman split-half coefficient of .93. The Cronbach's alpha and Guttman split-half coefficient for subscales of EPS-25 include Suppression .94 and .93, Signs of Unprocessed Emotion .90 and .87, Unregulated Emotion .95 and .96, Avoidance .92 and .94, and Impoverished Emotional Experience .95 and .93, respectively.

**Table 2.** Statistics of EPS-25

	N	Minimum	Maximum	Mean	Std. Deviation	Cronbach's Alpha	Guttman Split-Half Coefficient
Suppression	216	1.80	9.00	5.5241	1.17706	.88	.84
Unprocessed Emotion	216	2.20	8.60	5.4861	.96650	.90	.87
Unregulated Emotion	216	1.60	9.00	5.5796	1.00119	.95	.96
Avoidance	216	1.80	8.00	5.5981	.91580	.92	.94
Impoverished Emotional Experience	216	2.60	8.40	5.7037	.89109	.95	.93
EPS TOTAL	216	2.00	8.40	5.5783	.85867	.94	.93

Results of administration of The Social Readjustment Rating Scale (SRRS) on all participants are presented in table 3. According to the table, descriptive indices of Stress Row Score are  $m=395.35$  and  $SD= 57.19$ , Reducing Stress resistance  $m=154.91$  and  $SD= 53.30$ , Increasing Stress Resistance  $m=76.34$  and  $SD=54.20$ , and Life Stress  $m=473.91$  and  $SD=86.618$ . According to the test instructions, Life Stress scores are in three ranges: health (under 150), at risk (150-300), and problematic above 300; [36]. Transformation of scores of all participants showed that they were all above 300. The reliability indices for SRRS show a good level of reliability for overall test with Cronbach's alpha of .70 and Guttman split-half coefficient of .67. The Cronbach's alpha and Guttman split-half coefficient for subscales of SSRS include Stress Row score .65 and .60, Decreasing stress Resistance .72 and .63, Increasing Stress Resistance .61 and .68, and Life Stress .69 and .66, respectively

**Table 3.** Statistics of SRRS

	N	Minimum	Maximum	Mean	Std. Deviation	Cronbach's Alpha	Guttman Split-Half Coefficient
<b>Stress Row</b>	216	300	581	395.35	57.191	.65	.60
<b>Resistance Reduce</b>	216	40	400	154.91	53.309	.72	.63
<b>Resistance Increase</b>	216	0	200	76.34	54.209	.61	.68
<b>Life Stress</b>	216	320	831	473.91	86.618	.69	.66
<b>SRRS Total</b>	216					.70	.67

In order to investigate the relation between stress and social relations, Pearson's correlation coefficients between stress (SRRS, Social Stress Scale) and Emotional Processing indices (EPS-25 Emotional Processing scale) were calculated for total sample group. The results showed that there is significant positive correlation with Signs of Unprocessed Emotion (UNPRO;

.84,  $p < .04$ ), Unregulated Emotion (UNREG; .73,  $p < .04$ ), Avoidance (AVOID; .73,  $p < .001$ ), Improvised emotional Experience (IMP; .75,  $p < .02$ ), and Total Emotional Processing Status (TOTAL; .63,  $p < .04$ ).

**Table 4.** Correlations between Stress and Emotional Processing

		EPS_SUPP	EPS_UNPRO	EPS_UNREG	EPS_AVOID	EPS_IMP	EPS_TOTAL
<b>Life Stress</b>	Pearson Correlation	127	.840*	.731*	.730**	.750*	.630*
	Sig. (2-tailed)	.063	.041	.044	.000	.027	.049
	N	216	216	216	216	216	216

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

## 4. Discussion and Conclusion

### 4.1. Emotional processing

The results of EPS-25 Administration in the study sample are presented in table 2, which show moderate scores in each subscale including Suppression (mean=5.52, SD=1.17), Signs of unprocessed emotions (mean=5.48, SD=.96), unregulated emotion (mean=5.57, SD=1.00), avoidance (mean=5.59, SD=.91), impoverished emotional experience (mean=5.70, SD=.819), and total emotional processing status (mean=5.57, SD=.85). These scores, in comparison with other published works [38, 39, 40 31], show higher level of problem in different aspects of emotional processing which can be considered as a context of problematic relationships with a high level risk of physical and mental health problems. As it was explained before, high levels of tension in Forex trading especially at the level of retail, it seems to be a common future of having lots of tension.

Authors [31] made Emotional Processing Scale (EPS-25) to assess the emotional processing in individuals. In fact, EPS-25 was primary designed to identify emotional processing styles and deficits and measure change in emotional processing dimensions during therapy and then extended to non-clinical samples. EPS-25 assesses negative & problematic aspects of emotional processing in respondents. Factor analyses revealed five factors which has been named according to their items namely, Suppression, Signs of unprocessed emotions, unregulated emotion, Avoidance, and Impoverished emotional experience. In addition, the scale's total score is an important index of dysfunctional emotional processing status.

To date, EPS-25 has been used to explore differences between diagnostic groups and there is ongoing research in the area of prognosis and predicting future problems. It has been translated into nine languages and validated in languages such as Spanish, Italian and Japanese and has been administered in non-clinical samples as well e.g., [21, 22, 41, 42].

### 4.2. Stress

The results of Administration of SRRS in the study sample are presented in table 3, which shows the minimum life stress of 320. According to the SRRS manual, scores more than 300 units increase the chance of minimum life stress to 80% within a year [33]. This finding is consistent with [43] work on laborers of financial market with the result of high occupational stress in this sector. In addition, Forex trading is considered to be one of the most stressful professions in today's world, and as it has been explained before (see "Forex") the process of working in such area is in essence stressful, let alone being involved in some other marginal and daily issues. This external stress is high and there should be some supportive systems in order to help traders not to tolerate that amount of stress [44, 45, 46].

Most of the studies in the field of occupational stress have found that psychosocial work stress is associated with recurrent coronary heart disease events, high blood pressure, musculoskeletal disorders, lifestyle cancer risk factors, psychosomatic symptoms and burnout. Globalization has had a growing impact on working environments. The global market is closely woven, and the economic development of each country can, therefore, be influenced swiftly and deeply by other countries; this is especially evident in the connection of the stock markets [43] Studies have shown that unemployment rates rise with economic crisis and are associated with a significant short-term increase in premature death. In addition, a financial crisis has the potential to cause long-term health effects due to lower incomes. Financial analysts write industrial reports and comment on future trends. Traders have to jump in and out of stock, bond or futures markets on a daily basis. The work environments of financial workers are deeply linked with the global market [44, 47].

### 4.3. Combination of stress and emotional processing

The correlational analyses (table 4) showed that there is a significant strong relation with stress and emotional processing among participants of the study. These results include positive correlation between stress and signs of unprocessed emotions, unregulated emotions avoidance, impoverished emotional experience and total emotional processing status. These findings are in line with previous studies about emotional processing, emotion regulation and levels of stress in different populations [22, 31, 48, 49]

Authors have found that a wide range of psychophysiological as well as social-psychological factors may contribute to disturbances in emotion regulation and processing. These factors have some major component in common: They are all perceived as stressor and result in problematic expressions of emotions and this could be better understood in chronic

situations in which people bear a great amount of tension and stress through years of their lifecycle e.g., [50]. It would be a sound suggestion that a wide range of social conflict are mainly based on a destructive and often escalating, but stoppable and reversible shame-rage cycle: whenever people feel ashamed by others, their social interactions/communications would mix up with levels of stress. When emotions like shame, instead of being accepted and/or acknowledged, are neglected, repressed, and/or suppressed, it would transform to uncontrollable anger (which is named rage), and such rage would end in aggressive and shameful actions that feed-back negatively on this self-destructive situation. The social solutions and coping strategies of emotional processing/regulations are key concepts of social cooperation and conflict around resources, complexity, and moral life, because emotions play some social adhesive role in community and social life. Some cultures and sub-cultures encourage or discourage public manifestations of happiness, sadness, jealousy, excitedness, and many other emotions. Some fundamental emotions, like disgust, are unacceptable to be socially expressed among a large number of nations. Within human societies, several methods/strategies have been identified to regulate emotional processing which include self-blame (thoughts that relate to blaming yourself for a traumatic or stressful event), other-blame (the process of blaming others for what happened to yourself), rumination, catastrophizing (thoughts that overemphasize the terror of an experience), putting into perspective (marginalizing the seriousness of the event), positive refocusing (means that one is thinking about practical steps involved in coping with a negative event), positive reappraisal (means that one is trying to see a negative event in terms of personal growth), acceptance (thoughts of coming to terms with an experience or resigning yourself to what has happened), and planning. These strategies have positive/ negative biopsychosocial health outcomes and there is evidence which shows the relation of negative strategies/methods with high levels of stress For more details see, [51] Overall, it appears that levels of stress are positively related to levels of problems in emotional processing and problems in adaptive emotional regulation. Recent neuropsychological evidence has proven that along with increment in amount of psychosocial stress, the neural regions of emotional processing are weakening to optimally regulate emotions and people would fail in their emotional adjustment and verbal/non-verbal related behaviors [52]. Such evidence reinforces the idea that stress intervenes in emotions which are considered as futures in social relations and communications. The fact, that stress can affect the adaptive style of life, would be bolder especially in stressful labor sectors, in which stress is induced by the working environment and demands to the laborer. This occupational stress would be harmful and can breakdown health in physical and mental dimensions as well as interruptions in healthy and normal social relations. It shall be noted that, the target population of the study have several sources of psychosocial stress; keeping in mind that an Iranian Forex trader have no opportunity to directly contact to a valid broker (because of sanctions, at the time of the study they would not be able to have bank accounts with online USD/EU/GBP payments). All the Forex market is money transference and such basic obstacle would be an enormous source of negative stress. Having no valid supports and adequate skill trainings, adds up to Iranian Forex traders stress. Another issue is that in current common sense, trading in stock/exchange markets are not considered as valuable jobs and people still tend to prefer stable office works with direct and constant working programs. This view to job results in a downgrading attitude toward Iranian forex traders. Such sources of negative emotions would be debilitating enough to a complete state of emotional burnout; some issues which shall be investigated in future studies.

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