



Original Article

Investigating the role of dimensions of UPPS-P model of impulsivity and age increasing in men's emotion dysregulation

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Abstract

Introduction: Given the importance of identifying factors influencing emotion dysregulation in order to design interventions to promotion emotion regulation in different age groups, present study aimed to investigating the role of dimensions of UPPS-P model of impulsivity and age increasing in men's emotion dysregulation.

Materials and Methods: The number of 294 subjects were selected through available sampling from men general population of Tehran city and were assessed employing UPPS-P Impulsive Behavior Scale, Difficulties in Emotion Regulation Scale, and demographic questionnaire. Data were analyzed based on Pearson correlation test and hierarchical regression analysis using version 22 of SPSS software.

Results: The findings showed that there were significant coloration between all dimensions of impulsivity, with the exception of sensation seeking, and age with emotion dysregulation. Results of regression analysis showed that dimensions of impulsivity and age have significant role in prediction of emotion dysregulation and explain 47 percent of total variance of it ($F=40.67$, $P<0.01$). Among the predictor variables lack of perseverance ($t=3.66$, $P<0.01$), negative urgency ($t=5.98$, $P<0.01$), positive urgency ($t=2.81$, $P<0.01$), and age ($t=-2.14$, $P<0.01$) had significant contribution in the prediction of the emotion dysregulation.

Conclusion: Although the contribution of dimensions of impulsivity in the prediction of the emotion dysregulation is much more prominent than age and shows the importance of impulsivity in emotion dysregulation, age also has significant contribution in prediction of emotion dysregulation and increasing in age is accompanied with better using emotional regulation strategies and reducing in emotion dysregulation.

Keywords: Age, Emotion regulation, Impulsivity, Sensation seeking

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Introduction

Feeling and expressing emotions is a very important part of our lives. Emotions can lead attention to the main features of the environment, improve sensory input, regulate decision-making, prepare behavioral responses, facilitate social interactions, and enhance episodic memory. However, emotions can also be harmful, especially when their type, severity and duration do not fit into the situation in which they occur, which in these cases, emotional dysregulation is discussed (1). Emotional dysregulation that includes non-adaptive ways of response to emotions, including lack of awareness, understanding and acceptance of emotions; the inability to control behaviors when experiencing emotional distress; and the lack of access to appropriate situational strategies for adjusting the duration or intensity of emotional responses in order to meet personal goals and environmental demands (2,3), is considered as the main feature of emotional difficulties and incompatibilities, and is associated with a wide range of psychological disorders such as anxiety and mood disorders (4,5), food disorders (6), Post traumatic stress disorder (7) and substance use (8).

The emotional regulation is shaped by a range of socialization experiences throughout growth periods (9) and consists of several dimensions that reflect the strategies of individuals to achieve emotional control (10). Developmental psychologists see the age-related changes in the regulation of emotions during growth periods through biological growth (11,12). Children and adolescents begin to master their environment while earning and developing the ability to control impulses and gain awareness of themselves and others, and are increasingly efficient in describing and regulating their emotions (1). The brain and neurological function patterns of emotional processes continue to grow from childhood to early adulthood. For example, more control of inhibition reflects increased activity in the prefrontal

cortex from childhood to the early 20's (13). In the next years of life, however, the role of biological growth in emotional regulation is diminished and the role of environmental experiences is increased (14). Although few studies have been conducted on the relationship between emotional regulation and age in adulthood, the findings suggest that individuals use more different emotional regulation strategies in adulthood and with gradually age increasing (14,15).

In addition to age, emotional regulation strategies of people can be affected by their personality traits, especially impulsivity. Although some authors (e.g., 16) have considered impulsivity as an aspect of emotional dysregulation, these two constructs are different. In fact, emotional dysregulation refers to a wider set of disorders, which are not necessarily connected with impulsivity (17). In addition, in the construct of emotional dysregulation (2), the state-like action-component of impulsivity is considered, which refers to the inability to inhibition of impulsive behavior when facing with emotional arousal. While trait impulsivity, as is measured by the five-factor impulse model (18,19), indicates a more general tendency to hasty actions and decisions or non-planning reactions to internal or external stimuli, regardless of the possible consequences of these actions (20,21).

Neurological studies indicate that bilateral prefrontal brain regions, such as medial prefrontal cortex and anterior cingulate cortex, are responsive to emotion regulation initially by moderating limbic system, and at the same time, they ensure that current strategies are in line with regulatory goals (22). When this system wants to regulate emotion, it uses various regulatory strategies that each strategy has its own neural networks in addition to participating in some neural networks with other strategies (23). The prefrontal cortex and amygdala (part of the limbic system) are brain regions that are involved not only in emotional regulation but also in

impulsivity. Although there are subtle differences between different control strategies, the anterior cingulate cortex and prefrontal cortex are coordinately involved in regulating and inhibiting responses (24). Therefore, it seems emotional regulation and impulsivity to be closely related to each other despite their different mechanisms and neural structures (25). However, psychological researches have less studied the relationship between emotional regulation and impulsivity, and the present study in this line and with the goal of clarifying the simultaneous role of the age, was conducted with the aim of investigating the role of impulsivity personality trait and age increasing in emotional dysregulation.

Materials and Methods

The present research is an analytical-cross-sectional study and belongs to the correlation designs in terms of collecting and analyzing data. The statistical population included the general population of men aged 18-60 years old in Tehran city. The sample size was calculated 300 according to the design and the number of variables in the research (26), but in the end, the information gathered from 294 people was useable and was used in the final analysis. The research was carried out in the second half of 2016 in the parks of Tehran city. Availability sampling was used to collect data. For this, after attending in the parks according to the entry criteria (male gender, adults aged 18–60 years, and having at least elementary education) and exit criteria (people aged less than 18 or over 60 years old, lack of literacy of reading and understanding questions, and having an obvious psychological disorder), and if the potential participants were willing to participate in the research, questionnaires were given to them for filling in. In this research, in order to consider ethical principles, participants were told that there is no compulsory to participate in the research and they can refuse to participate in the research if they want. They also

were explained that there is no need to mention the name, the questionnaires are examined in a group, and there is no problem regarding the confidentiality of the information and none of the participants can be tracked based on the questionnaires information. In addition, the present study has been morally approved by the Kharazmi University, considering that it is part of a PhD dissertation that its proposal has been approved by this university. After collection, the data were analyzed by Pearson correlation test and hierarchical regression analysis using version 22 of SPSS software.

Research instrument

A) UPPS-P Impulsive Behavior Scale: This scale is a 59 items self-report questionnaire that designed to measure five distinct personality characteristics associated with impulsivity. These characteristics include: sensation seeking, (lack of) perseverance, (lack of) premeditation, negative urgency, and positive urgency. The first four are dimensions of the original version of the impulsive behavior scale (18); the fifth dimension is added to the original scale based on recent works (27). Sensation seeking (12 items) refers to two aspects: 1- The tendency for pleasure and the pursuit of exciting activities; 2- The openness to experience new things that may be dangerous; (lack of) perseverance (10 items) refers to the individual's ability to concentrate on a task that may be difficult or tedious; (lack of) premeditation (11 items) refers to the tendency to think and reflect on the results of an action before doing it; and finally, urgency refers to the tendency for experiencing strong impulses under negative (negative urgency, 12 items) or positive (positive urgency, 14 items) emotional conditions. The items of this questionnaire are graded on a 4 point scale from 1 (totally agree) to 4 (totally disagree). The reliability of this questionnaire using Cronbach's alpha has been reported between 0.82 and 0.94. For evaluation of the validity, factor analysis has been used that its results has been

confirmed the factor structure of this scale (18,27). In the research conducted in Iran, the internal consistency reliability of this scale was calculated between 0.74 to 0.86 for subscales and 0.90 for the total score of the scale using Cronbach's alpha. The results of exploratory factor analysis also confirmed the factor structure of this scale (28).

B) Difficulties in Emotional Regulation Scale: This scale is a 36 items questionnaire designed by Gratz and Roemer (2). This scale has a total score and 6 special scores are dedicated to different aspects of difficulty in emotional regulation. These subscales include: non-acceptance of emotional responses (Non-accept), difficulties engaging in goal directed behavior (Goals), impulse control difficulties (Impulse), lack of emotional awareness (Aware), limited access to emotion regulation strategies (Strategies), and lack of emotional clarity (Clarity). Responding to this questionnaire is based on a 5-point Likert scale. Gratz and Roemer (2) examined the reliability and validity of this scale on a sample included 479 undergraduate students. This scale had a good internal consistency with Cronbach's alpha coefficient 0.93 in the total score and Cronbach's alpha coefficient greater than 0.80 in all subscales. Test-retest reliability of this scale also has been reported appropriate (0.88) for a period of 4-8 weeks. Heidari et al. (29) examined the reliability and validity of this scale in Iran. The reliability of this scale with two methods of

Cronbach's alpha and split-half has been reported 0.84 and 0.76, respectively, that indicated its appropriate reliability. The simultaneous validity of this scale was also assessed using Zuckerman's sensation seeking questionnaire that the results showed significant positive correlations between the scores of the two questionnaires. In addition to the two questionnaires, the participants completed a demographic questionnaire to obtain information on age and other demographic characteristics.

Results

Demographic information showed that among 294 subjects, 236 (80.3%) were single and 58 (19.7%) were married. 2 (0.7%) of subjects had elementary education, 6 (2.1%) had middle school education, 54 (18.5%) had a high school diploma, 46 (15.8%) had an associate's degree, 132 (45.2 %) had a bachelor's degree, and 52 (17.8%) had a master's degree or higher. The mean and standard deviation of the variables of research are presented in Table 2. According to the data of this table, the mean (standard deviation) of the age of the subjects is 28.67 (9.31) years and the mean (standard deviation) of emotional dysregulation is 89.27 (24.01). Sensation seeking with the mean (standard deviation) of 2.94 (0.52) is the most outstanding and the lack of premeditation with the mean (standard deviation) of 1.87 (0.52) is the rarest dimension of impulsivity in the participants of the present study.

Table 1. Demographic characteristics of research participants

| Variable | level | Freq. | Percent |
|----------------|---------------------------|-------|---------|
| Marital status | Single | 236 | 80.3 |
| | Married | 58 | 19.7 |
| Education | Elementary school | 2 | .7 |
| | Middle school | 6 | 2.1 |
| | High school diploma | 54 | 18.5 |
| | Associate's degree | 46 | 15.8 |
| | Bachelor's degree | 132 | 45.2 |
| | Master's degree or higher | 52 | 17.8 |

* $P < 0.05$

** $P < 0.01$

Pearson correlation test was used to study the relationship between research variables. The results of this test are presented in Table 2. As the correlation

matrix presented in this table shows emotional dysregulation has positive significant relationship with lack of premeditation ($r=0.35$, $P<0.01$), lack of

perseverance ($r=0.41$, $P<0.01$), negative urgency ($r=0.63$, $P<0.01$), and positive urgency ($r=0.57$, $P<0.01$); and negative significant relationship with age ($r=-0.15$, $P<0.05$). Also, age has negative significant

relationship with sensation seeking ($r=-0.35$, $P<0.01$), lack of premeditation ($r=-0.18$, $P<0.01$) and positive urgency ($r=-0.15$, $P<0.05$).

Table 2. Mean, standard deviation and correlation coefficients of the variables

| Variable | M | SD | 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------------|-------|-------|---------|---------|---------|--------|--------|--------|
| 1. Emotional dysregulation | 89.27 | 24.01 | | | | | | |
| 2. Sensation seeking | 2.94 | 0.52 | 0.01 | | | | | |
| 3. Lack of premeditation | 1.87 | 0.52 | 0.35** | -0.02 | | | | |
| 4. Lack of perseverance | 1.91 | 0.49 | 0.41** | -0.14* | 0.61** | | | |
| 5. Negative urgency | 2.42 | 0.58 | 0.63** | 0.08 | 0.39** | 0.35** | | |
| 6. Positive urgency | 2.23 | 0.58 | 0.57** | 0.15** | 0.41** | 0.29** | 0.77** | |
| 7. Age | 28.67 | 9.31 | -0.18** | -0.35** | -0.18** | -0.11 | -0.09 | -0.15* |

$P<0.01$ ** $P<0.0$

Considering the significance relationship between impulsivity dimensions and age with emotional dysregulation, in order to examine the contribution of the impulsivity dimensions and age in prediction of the emotional dysregulation, these variables were entered into hierarchical regression analysis in separate blocks. The results of hierarchical regression analysis for predicting emotional dysregulation from the dimensions of impulsivity and age are presented in table 3. As the data from this table show, impulsivity dimensions explained 46% of the total variance of

emotional dysregulation ($F=47.29$, $P<0.01$). In the second model, by adding the age in the analysis, explained variance was increased to 47%, and this increase is statistically significant ($\Delta R=0.01$, $\Delta F=4.58$, $P<0.01$). The results of the last stage of hierarchical regression analysis indicate that among the predictor variables lack of perseverance ($t=3.26$, $P<0.01$), negative urgency ($t=5.98$, $P<0.01$), positive urgency ($t=2.81$, $P<0.01$), and age ($t=-2.14$, $P<0.01$) have a significant contribution in the predicting of the emotional dysregulation.

Table 3. Summary of hierarchical regression analysis for prediction emotional dysregulation

| Model | Predictive variable | Beta | T | P | R | R2 | F | P | ΔR | ΔF | P |
|--------------|-----------------------|-------|-------|-------|------|------|-------|-------|------------|------------|-------|
| First model | (Constant) | - | 1.87 | 0.062 | 0.67 | 0.46 | 47.29 | 0.001 | 0.46 | 47.29 | 0.001 |
| | Sensation seeking | -0.03 | -0.63 | 0.533 | | | | | | | |
| | Lack of Premeditation | -0.03 | -0.51 | 0.612 | | | | | | | |
| | Lack of Perseverance | 0.22 | 3.81 | 0.001 | | | | | | | |
| | Negative Urgency | 0.41 | 5.83 | 0.001 | | | | | | | |
| Second model | (Constant) | - | 2.82 | 0.005 | 0.68 | 0.47 | 40.67 | 0.001 | 0.01 | 4.58 | 0.033 |
| | Sensation seeking | -0.07 | -1.35 | 0.177 | | | | | | | |
| | Lack of Premeditation | -0.04 | -0.73 | 0.467 | | | | | | | |
| | Lack of Perseverance | 0.21 | 3.66 | 0.001 | | | | | | | |
| | Negative Urgency | 0.42 | 5.98 | 0.001 | | | | | | | |
| | Positive Urgency | 0.20 | 2.81 | 0.005 | | | | | | | |
| | Age | -0.10 | -2.14 | 0.033 | | | | | | | |

Discussion

The purpose of this study was to investigate the role of dimensions of impulsivity personality trait and age in men's emotional dysregulation. To investigate the relationship between impulsivity dimensions and age with emotional dysregulation, first the

correlation between these variables was examined using Pearson test. The results of this test indicated that impulsivity dimensions have positive correlations with emotional dysregulation, while age had a negative correlation with emotional dysregulation. Then, in order to investigate the role of impulsivity dimensions and age

in emotional dysregulation precisely, these variables were introduced into the hierarchical regression analysis as predictors of emotional dysregulation. The results of regression analysis showed that in addition to age, lack of perseverance, negative urgency and positive urgency have a significant role in predicting emotional dysregulation.

The lack of perseverance that is associated with the self-discipline trait of the Neo personality inventory refers to the ability of individuals to stay focused on a work that may be tedious or difficult (18). People with low scores in this dimension can finish the assigned tasks and work under conditions that require resistance to distracting stimuli, while people with high scores in this dimension cannot force themselves to do what they don't want to do (18). Therefore, according to the findings of this research, people who do not have the necessary effort and perseverance to pursue their duties and tasks are also unable to manage their emotions in facing life's problems and suffer from more difficulties in emotional regulation.

Similarly, people with high scores in the urgency factor also suffer from emotional regulation difficulties. The urgency pointing to hasty action in the intense emotional textures is itself composed of two dimensions of negative and positive urgency. Negative urgency that refers to hasty action in negative emotional contexts is considered as a dimension of the original impulsivity questionnaire (18). Nevertheless, positive urgency was later added to the original scale based on the works of Cyders et al. (27) and it was supposed to measure a part of the impulsivity (impulsivity in response to very positive emotional states), which negative urgency was not able to measure it. However, as the findings of the study showed, both urgency dimensions have significant contribution in the predicting of the emotional dysregulation and it can be said that the tendency to hasty action in the

intense emotional contexts is associated with emotional dysregulation, regardless of the content of emotions.

The results of the study also indicated that age, despite having a meaningful relationship with impulsivity dimensions, has a unique role in predicting emotional dysregulation. On the one hand, this finding suggests that impulsivity dimensions, despite considering as personality traits and therefore supposing to have a relatively constant pattern over time, they still are affected by aging and age increasing is associated with a decrease in impulsivity. On the other hand, these findings show that not only, consisting with conducted researches (14,15), the age does affect the selection of emotional regulation strategies, but also people's age increasing is associated with a decrease in their emotional regulation problems.

Conclusion

The findings of the study showed that dimensions of impulsivity and age have not only a significant correlation with emotional dysregulation, but also play a significant contribution in the predicting of emotional dysregulation and they explain nearly half of the total variance of the emotional dysregulation. Although, the contribution of the dimensions of impulsivity compared to the age is much more and indicates the importance of the impulsivity personality trait in disturbances in men's emotional regulation, but age, in turn, has a significant contribution in predicting of emotional dysregulation, and given the negative correlation between this variables, findings indicate that age increasing is associated with better use of emotional regulation strategies and reduction of emotional regulation disorder. However, due to the implementation of this research on the general population of adult males should be cautious about generalizing its findings to other groups such as women, adolescents and people with mental disorders, and it is essential to repeat it on other groups in order to

increase the generalizability of the findings.

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