

# Emotion Regulation and Action Control as Predictors for Decision Making Style

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**Submitted:** 17 March 2020

**Accepted:** 24 April 2020

Int J Behav Sci. 2020; 14(1): 34-39

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## Abstract

**Introduction:** The present study was aimed to investigate if decision making styles can be predicted by emotion regulation and action control or not.

**Method:** The Participants included 422 students (164 male and 258 female) of Shiraz University that were selected using a multistage random cluster sampling method. In order to gather the required data, General Decision Making Styles scale (Scott and Bruce, 1995), Emotion Regulation scale (John and Gross, 2003), and Action Control scale were used. Multiple regression (enter method) was used for analyzing the data.

**Results:** Results indicated that the Avoidant and Rational, but not Intuitive decision making styles could be partly predicted by Emotion Regulation and Action Control. It is shown that Spontaneous and Dependent decision making styles can only be predicted using Action Control.

**Conclusion:** Among the variables of emotion regulation and action control, the strongest predictor for decision making styles is action control. Further research can examine the role of individual factors such as five personality factors as well as family variables in decision making.

**Keywords:** Decision Making Style, Emotion Regulation, Action Control

## Introduction

What distinguishes humans from all other living beings is his ability to think and free will, which forms the capability to make decisions. Man as a sentient being is constantly exposed to choose and each day is faced with many decisions, some trivial superficial and some very important. In Cambridge Dictionary of Psychology, decision making is defined as a process of choosing between two or more options that can be substituted for each other [1]. Byrnes [2] believed that decision-making is a process of choosing between two or more options in the quest to achieve one's goals. From a cognitive view, decision making process is considered as a continuous and integrated process in the interaction with the environment. Therefore, decision making is a rational or emotional process that may be rational or irrational based on implicit or explicit assumptions [3].

Decision making as one of the most important behaviors of human beings has several dimensions, among which decision-making styles can be considered. The most important and famous classification of decision making styles is Scott and Bruce [4] who defined it as a learned, habitual response pattern exhibited by an individual when confronted with a decision situation. Scott and Bruce [4] identified five styles including rational, intuitive, dependent, avoidant, and spontaneous. The rational style is characterized by a comprehensive search and logical evaluation of alternatives which indicates the willingness to identify all possible pathways, to evaluate the results of all aspects of each solution, and finally to select optimum solutions [5]. The intuitive style reflects the attention to details in information processing, rather than a systematic search and complete process of

information, and the tendency to rely on emotions [6]. The dependent decision maker has a dubious view to issue. He looks for ideas and suggestions and decides based on information collected by others [4]. The avoidant style reflects an attempt to avoid decision making. While facing an issue, such a person may delay decision making as far as possible and evade any responses to the issue [7]. Finally, the spontaneous style shows a sense of urgency and willingness to make a decision as soon as possible [6].

Decision making styles as one of the variables related to the cognitive domain of human performance are affected by several factors. In earlier research, the role of individual characteristics and personality traits [4, 6, 8-10]; cognitive styles and functions [11, 12]; gender [9]; age [9]; emotional intelligence [13] and emotions [14, 15] have been studied in relation to decision making styles. In the present study, emotional and cognitive antecedents of decision making have been considered. From the domain of emotions, the role of emotion regulation in decision making styles is investigated. Emotions can cause biases in decision making [16] and affect decision making [17]. Emotion regulation determines the positive or negative impact of emotion on decision making [18]. Emotion regulation is defined as a process through which people can focus on what emotion to have, when to have, and how to experience and express them [19].

Gross [19], based on the process model of emotion regulation, divides emotion regulation strategies in the form of antecedent-focused and response-focused. Antecedent-focused strategies are activated before an emotion or at the beginning of its emergence and prevent the occurrence of intense emotions. These strategies include cognitive reappraisal, which demonstrates the interpretation of a potential emotional situation in a manner that would change its emotional impact. Response-focused strategies are activated after an incident, or after the emergence of emotion. These strategies cannot prevent the occurrence of intense emotions. Expressive suppression is one of the response-focused strategies in which an individual avoids expressing emotion behaviors and emotional manifestations [19]. Cognitive reappraisal predicted higher emotional well-being [20]. Emotion regulation strategies are used in decision making situations [21, 22]. Van't Wout et al. [23] proposed that reappraisal affects decision making in social interactions. The role of reappraisal and suppression strategies in decision making under risk and uncertainty was investigated by Heilman et al. [22]. Martin [24] also examined the impact of emotion regulation strategies on decision making.

Decision making styles are also affected by cognitive factors such as self-regulation. One of the self-regulation processes is action control. People can perform action for two different reasons: either because they 'want' to carry out that action or because they 'were driven' to do so by circumstance [25]. Sometimes, individuals face conflicting action tendencies that are all highly feasible and desirable. In this condition, people need psychological mechanisms that can shield their commitment to a chosen course of action against competing action tendencies. These

mechanisms allow people to remain steady in their goal pursuits even under threatening or demanding circumstances [26]. Action control is one self-regulation process that allows individuals to maintain and enact intentions.

According to action control theory, human beings regulate their actions in the form of either action orientation or state orientation. Action and state orientations are related to individual differences in the ability to regulate emotions, cognition, and behavior toward voluntary actions. [27, 28]; these orientations are comprised of three main aspects. The inability to regulate negative emotions during arousal is called Failure-related Action Orientation (AOF) and represents a person's response to threatening situations such as failure, major life changes, or anxiety. This aspect consists of two opposite poles of Disengagement versus Preoccupation. Disengagement which is related to action orientation refers to the ability to reduce negative emotions and get rid of thoughts associated with negative emotions and unpleasant incidents. In contrast, preoccupation, refers to the inability to stop thinking about an event, and control negative emotions and disturbing thoughts intentionally. [29]

The second aspect is decision-related action orientation (AOD), which consists of two dimensions of initiative versus hesitation, and is determined by tendency to respond to demanding conditions, such as time pressure, working memory load, or task difficulty. Hesitation refers to inability to initiate voluntary actions (when there is no reason or rational obstacle to perform and action). People with state orientation can hardly initiate an action or when previous assignments are finished, they hardly turn to new assignments. However, action orientated people on this dimension (initiative pole), are able to easily initiate work on task. [29].

The third aspect is action orientation during (successful) performance of activities (Persistence versus Volatility) and refer to the degree to which individuals become distracted when working on an interesting or necessary task. People with action orientation effectively focus on their intentions until the task is completed (persistence), whereas more state orientated individuals are easily pulled off task (volatility), impairing their overall performance [27].

Research has shown that action orientation versus state orientation moderates goal achievement in a wide range of different fields including education, health, career, learning and sports [30-32]. Individuals with action orientation are more successful in academic courses [33]. In AOD those with action orientation make faster decision [34], and have more ability to commit their decisions [35], and are more successful in efficient implementation of difficult goals [35]. Beswick and Mann [36] concluded that there is a significant positive relationship between negligence in decision making and hesitation in AOD. Blunt and Pychyl [37] also found out that there is a significant positive relationship between

state orientation and general negligence and negligence in decision making. Thunholm [6] found out that persistency/volatility in action control is a negative predictor of rational decision making and disengagement/preoccupation aspect is a positive predictor of dependent decision making style. Initiative/hesitation aspect is also a negative predictor in avoidant decision making style.

According to the importance of decision making through life and that one objective of education is to train the youth to select the right choice and also regarding the limited number of research on decision making styles in psychological field and lack of research investigating the influence of cognition and emotion together in decision making, the present study has aimed to predict decision making styles based on emotion regulation strategies and action control.

## Method

A total of 422 undergraduate students (164 male and 258 female) of Shiraz University participated in this study. Participants were selected using a multistage random cluster sampling method. Four faculties (Educational Sciences and Psychology; Economics, Management and Social Sciences; Engineering; Literature and Human Sciences) of Shiraz University and three classes in each faculty were chosen randomly and all students in selected classes were evaluated. The aim of the study was described.

**Decision-making Style** was assessed with the GDMS test [4]. It was structured by five different scales, each represented a particular decision-making style: (1) Rational (e.g., "I double-check my information sources to be sure I have the right facts before making a decision"); (2) Intuitive (e.g., "When making a decision, I rely upon my instincts"); (3) Dependent (e.g., "I often need the assistance of other people when making important decisions"); (4) Avoidant (e.g., "I avoid making important decisions until the pressure is on"); (5) Spontaneous (e.g., "I generally make snap decisions"). [4] The 25 item were presented to respondents in a five-step Likert scale ranging from strongly disagree to strongly agree. The scales of the GDMS has been shown to be reliable [4, 6]. Internal consistency reliabilities in this study were: 0.73 for rational, 0.66 for intuitive, 0.60 for dependent, 0.77 for avoidant, and 0.68 for spontaneous.

**Emotion Regulation Questionnaire:** emotion regulation was assessed with the ERQ. This 10-item questionnaire assesses individual differences in two emotion regulation strategies; cognitive reappraisal and expressive suppression. Items are measured on a 7-point Likert scale, from 1 (strongly disagree) to 7 (strongly agree). This scale exhibits solid reliability [38]. Cronbach's alphas in this sample were 0.69 for emotional reappraisal and 0.78 for expressive suppression.

**Action Versus State Orientation:** Individual differences in action versus state orientation were assessed by the Action Control Scale (ACS-90) [29]. The ACS-90 consists of 36 dichotomous items, with 12 items each in the Preoccupation, Hesitation, and Volatility subscale. Based on Diefendorff et al. [32], 14 of the original 36 items were dropped. A sample Preoccupation item is: "When I am told that my work has been completely unsatisfactory: (a) I don't let it bother me for too long (indicates action orientation); (b) I feel paralyzed (indicates state orientation)." A sample Hesitation item is: "When I know I must finish something soon: (a) I have to push myself to get started (indicates state orientation); (b) I find it easy to get it done and over with (indicates action orientation)." A sample Volatility item is: "when I read an article in the newspaper that interests me: (a) I usually remain so interested in the article that I read the entire article (indicates action orientation); (b) I still often skip to another article before I've finished the first one (indicates state orientation)." Action oriented choices were coded as "1", whereas state-oriented choices were coded as "0" and summed for the entire subscale. The ACS has been shown to be reliable with several samples (Cronbach's  $\alpha$  ranging from 0.70 to 0.78); Kuhl and Beckmann [39]. Internal consistency reliabilities in this study were 0.73 for Preoccupation, 0.67 for Hesitation and 0.60 for Volatility.

## Results

Descriptive statistics are presented in table 1. The results of correlations between the variables are shown in Table 2. As shown in table 2, the correlation coefficients of the study dependent variables (decision making styles) were significantly related to most of the other variables, thus allowing further analyses.

**Table 1.** Descriptive Statistics for the Measures Use

Variable	N= 422	M	SD
1-Avoidant style		12.75	3.91
2-Rational style		19.48	2.9
3-spontaneous style		11.39	3.03
4-Dependent style		18.9	3.56
5-Intuitive style		10.86	2.12
6- cognitive reappraisal		22.31	3.68
7- Expressive suppression		11.76	3.68
8- Preoccupation		3.48	2.41
9- hesitation		4.43	1.49
10- Volatility		3.47	1.96

In order to examine the relationships between the emotion regulation, action control and the criterion, decision making styles, five standard multiple regression analysis was performed simultaneously (see table 3).

According to Table 3, avoidant decision making style is predicted positively by expressive suppression, and negatively by preoccupation, hesitation, and volatility. Cognitive reappraisal and hesitation, predict rational decision making style positively. Also, preoccupation, hesitation, and volatility predict spontaneous decision making style negatively. Dependent decision making style is predicted negatively by preoccupation and hesitation.

In addition, the results indicate that none of the variables are able to predict Intuitive decision making style.

Table 3 also showed that, hesitation, volatility, Expressive suppression and preoccupation are the strongest predictors of avoidant style, respectively. Hesitation and cognitive reappraisal are the strongest predictors of rational decision making style. Spontaneous decision making style is also most predicted by volatility, hesitation, and preoccupation, respectively. Finally, preoccupation and after that hesitation are the strongest predictors of dependent decision making style. Intuitive decision making style was not predicted by any of the variables.

**Table 2. Correlation Matrix for all Analyzed Measures**

Variable	1	2	3	4	5	6	7	8	9	10
1-Avoidant style	—									
2-Rational style	-.38**	—								
3-spontaneous style	.44**	-.31**	—							
4-Dependent style	.45**	-.04	.23**	—						
5-Intuitive style	.11*	.03	.27**	.19*	—					
6- cognitive reappraisal	-.11*	.29**	-.11	-.01	.003	—				
7- Expressive suppression	.22**	-.003	.05	.07	-.03	.18**	—			
8- Preoccupation	-.30**	.27**	-.23**	-.22**	-.04	.31**	-.003	—		
9- hesitation	-.40**	.33**	-.26**	-.22**	-.06	.29**	-.04	.54**	—	
10-Volatility	-.28**	.20**	-.22**	-.08	-.02	.22**	-.12*	.25**	.30**	—

\*p < .05, \*\*p < .01

**Table 3. The Multiple Regression of Decision Making Styles on Emotion Regulation and Action Control**

Predictor variables	Criterion variable	β	t	sig	R <sup>2</sup>
cognitive reappraisal	Avoidant style	.01	.30	N.S	.24
Expressive suppression		.17	3.77	.001	
Preoccupation		-.13	-2.35	.01	
hesitation		-.27	-4.83	.001	
Volatility		-.17	-3.61	.001	
cognitive reappraisal	Rational style	.20	3.79	.001	.16
Expressive suppression		-.006	-.12	N.S	
Preoccupation		.06	1.12	N.S	
hesitation		.21	3.66	.001	
Volatility		.07	1.42	N.S	
cognitive reappraisal	spontaneous style	.01	.35	N.S	.10
Expressive suppression		.01	.29	N.S	
Preoccupation		-.13	-2.13	.03	
hesitation		-.14	-2.38	.01	
Volatility		-.16	-3.06	.001	
cognitive reappraisal	Dependent style	.01	.35	N.S	0.08
Expressive suppression		.01	.29	N.S	
Preoccupation		-.17	-2.88	.001	
hesitation		-.13	-2.17	.03	
Volatility		-.05	-.95	N.S	
cognitive reappraisal	Intuitive style	.07	1.33	N.S	.009
Expressive suppression		-.05	-.97	N.S	
Preoccupation		-.05	-.86	N.S	
hesitation		-.03	-.53	N.S	
Volatility		-.01	-.34	N.S	

**Discussion**

This study aimed to investigate the possibility of predicting decision making styles based on emotion regulation and action control. The findings showed that initiative/hesitation aspect in action control is the most negative predictor of avoidant style. This result is consistent with findings of Thunholm [6]. The results of Beswick and Mann [36] also indicated that there is a

positive relationship between negligence in decision making and hesitation. So, it can be said that people with action orientation (initiative component) who start working easily [28, 29] do not evade and avoid decision making.

The persistency/volatility aspect is the second negative predictor of the avoidant style. Jaramillo and Spector [40] showed that persistency has a positive relationship with

effort and consequently academic performance.

The third predictor is expressive suppression that positively predicts avoidant style. Those using this strategy are always aware of themselves and want to reform their own behavior at the time of emotion incidence, which requires a lot of energy and may increase rumination [41], and it may reduce cognitive resources [42]. As a result, individuals with increased rumination and reduced cognitive resources feel unable to make decisions and avoid decision making.

The aspect of disengagement/preoccupation is the last negative predictor of the avoidant style. It can be said that people with state orientation have continuous rumination thoughts in response to negative incidences of life that reduces the existing cognitive resources to move forward [27, 28], hinders thinking and thus avoids decision making. However, action individuals get rid of thoughts related to negative experiences, act rational and conscious in making decisions, are more able to be committed to their decisions [35] and do not evade decision making. This finding is consistent with Blunt and Pychyl [37].

The results on the predictive power of emotion regulation and action control in rational style showed that the strongest predictor is initiative/hesitation. People with action orientation are more successful in following academic courses [33] and according to Jaramillo and Spector [40], initiative component is positively correlated with effort. These people have high analysis skills and use deeper processing methods and advanced cognitive levels in their activities and tasks. The rational decision maker also explores all solutions while facing decision making situations [4]. Thus, a positive relationship between initiative and rational style is reasonable. Cognitive reappraisal is the second positive predictor of rational style. In reappraisal strategy, the person thinks of the situation in a convenient way and changes it. In contrast, in the suppression strategy the person focuses on external resources rather than internal resources and controls external stimuli. Reappraisal is associated with fewer negative emotion experiences and is closely related to coping strategies [43]. This finding is consistent with Martin & Delgado [21]. So the person who uses this strategy in addition to properly assessing the situation can modify and regulate his/her emotions, make decisions in a rational and reasonable way, and employ effective coping strategies.

For the predictive power of emotion and action control on spontaneous style, the results showed that persistency/volatility, initiative/hesitation, and disengagement/preoccupation had the most power to negatively predict spontaneous style. To explain these findings, it can be stated that people with action orientation after failure insist on the use of effective strategies [44] and as mentioned in the previous section, persistency is associated with effort and motivation. In addition, these people can produce positive emotions facing with problems. In contrast, those with state orientation have poor self-regulation resources. These people impulsively tend to focus on inconsistent and

contradictory information [34], and therefore cannot start any action and tend to make decisions impulsively due to suppression of negative emotions and high motivation [45]. Meanwhile, spontaneous style indicates sense of urgency and a willingness to make decisions quickly as soon as possible [4]. Thus, a negative relationship between action orientation and spontaneous style can be expected.

The results showed that disengagement/preoccupation has the most power to predict dependent decision making style negatively. People with state orientation (preoccupation aspect) cannot stop thinking about the events. In contrast, action people (disengagement aspect) can obviously process information present and future and efficiently achieve their goals [28]. Therefore, these people have high self-regulation capability in their cognition and behavior and it helps them to make their own decisions and not be dependent on others to make decisions. The second significant predictor is initiative/hesitation that predicts dependent style negatively. People with action orientation can create positive emotions facing problems and initiate activities to achieve their goals [29]. They have more ability to commit their decisions [35] and operate independently to pursue and achieve their goals.

Generally based on the findings, it can be concluded that among the variables of emotion regulation and action control, the strongest predictor for decision making styles is action control. It seems that decision making styles is more dependent on cognitive ability that are stable and not easily changed. When making decisions, people need to use their thoughts and employ their cognitive resources, and then emotion regulation help people make decisions successfully. It is suggested that the role of individual factors such as five personality factors as well as family variables be examined in decision making. Since the participants in this study were undergraduate students, cautions in generalizing the results should be kept in mind.

## Conclusion

The results of this study showed that decision making styles could be partly predicted by emotion regulation and action control and the strongest predictor for decision making styles is action control. Further research is needed to confirm these findings.

## Acknowledgement

The authors would like to thank all the participants of the present study from Shiraz University.

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