# THE "POSITIVE TRIAD" OF THE REGULATION OF PERSONAL CHOICE AMONG CREATIVE PROFESSIONALS\*

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#### **ABSTRACT**

Psychology views creativity not only as a specific ability to create new ideas, products, and solutions, but also as a manifestation of a specific personality type. The specific personality traits of this type frequently manifest themselves during decision making. We base our research within the dynamic regulative systems (DRSes) framework. The latter consist of cognitive as well as personality components that form a complex psychological landscape of the regulation of personal choice. The chapter describes the complex pattern of interrelationships between emotional intelligence, tolerance for uncertainty, and creativity (the "Positive Triad" of traits) in individuals whose occupation places high demands on creative ability. The main hypothesis of this study was the assumption that the components of the "Positive Triad" interact as the predictors of the personal choice. We compare undergraduate students majoring in creative writing, musical composing, theater/stage directing (n = 86), and creative professional experts with a high level of expertise in these professions (n = 53). Using a set of verbal vignettes that tap into personal choice and regression analysis, we show that the use of emotional context in solving these vignettes is predicted by the "Positive Triad". Implications of the research are also discussed.

**Keywords**: creativity; emotional intelligence; tolerance for uncertainty; dynamic regulative systems; creative professions; positive triad.

#### Introduction

The study and the preparation of this chapter were supported by the Russian Foundation for Humanities (RGNF), project No 13-06-00049.

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Emotional intelligence (EI) manifests itself in decision making: it plays a role in the identification of the alternatives we choose from. In this study, we conceptualize EI through its representation in the procedural regulation of one's personal choice, rather than focusing on EI in terms of its componential structure.

Verbal tasks are sometimes used to model professional decision making. For example, this approach was used by Sternberg et al. (2000) to study practical intelligence. Such studies usually are devoted to the analysis of the differences between professional's (expert's) and beginner's decision making. However, the study reported in this chapter focused on the differences in *personal choice* (modeled through verbal tasks or vignettes) of representatives of various professions. The verbal tasks we constructed can't be "solved" by means of professional knowledge.

In personal choice, one's personal and intellectual traits are used to resolve the situation. Decision making and choice can be mediated by the use of emotional context in order to facilitate acceptance (and overcoming) of uncertainty. In this study, we emphasized the role of the emotional context as a key feature of the situation. The goal of this study was thus to investigate the extent to which representatives of different professions base their decision making on the use of emotional context, and what personality predictors of choice are included in the process. We previously showed that multiple components can be actively involved in personal choice and decision making (see Kornilova, Chumakova, Kornilov, & Novikova, 2010 for a review) simultaneously but to a different extent in various situations and stages of decision making.

There is a growing body of studies that explored the connection between emotional intelligence (EI) and the Big Five personality traits (e.g., McCrae, 2000.), academic achievement (e.g., Sanchez-Ruiz, Mavroveli, & Poullis, 2013), creativity (e.g., Averill, 2000; Ivcevic, Brackett, & Mayer, 2007; Lubart & Mushiru, 2005), IQ (e.g., Arteche, Chamorro-Premuzic, Furnham, & Crump, 2008; Husin, Santos, Ramos, & Nordin, 2013), and other traits. Although there is tentative evidence for a connection between EI and creativity, little is known about their complex interrelationships and their joint role in the regulation of a choice.

The conceptualization of productive choice as being underspecified by external conditions or preexisting knowledge and biases is best captured by the notion of productive solutions. This productive choice requires the formation of certain "novelties" (or new formations) in the process. In a series of papers, Kornilova and colleagues (2010) argued that static patterns of relationships among various predictors of choice (a dispositional characteristic) do not explain the integral regulation of choice under uncertainty. According to the results from these studies, individual differences in the personal regulation of choice were argued to be better explained via the concept of *dynamic regulative systems* (DRSes) that form in the process of functional development. In addition, various levels of procedural regulation included in DRSes (intellectual and personal components) work jointly rather than independently (e.g., Kornilova, Chumakova, Kornilov, & Novikova, 2010).

Our previous studies provided evidence in support of this hypothesis using the examples of relationships between creativity, tolerance for uncertainty (TU), intelligence and self-estimated intelligence (Kornilova & Kornilov, 2010; Kornilova, Kornilov, & Chumakova, 2009; Kornilova & Novikova, 2013). The general hypothesis of this study is that representatives of various professions should exhibit different patterns of predictors of personal choice (manifested in choice in verbal vignettes). However, we cannot hypothesize beforehand which variables (EI, creativity or TU) would be predictors of the choice.

We recruited several groups of different creative professions representatives for this study; these professions required diverse general and specific abilities, on the one hand, and, on the other, placed demands on the abilities in the emotional domain and therefore require a substantial level of emotional intelligence. "Person - other people" and "person - art imagery" type professions (in Klimov's, 2004, classification) focus on The Other and emotional contribution to artistic creativity. From the standpoint of this classification, psychology students might belong to a relatively less creative profession in comparison to creative profession representatives. At the same time, the profession of a psychologist focuses on others and requires psychologists to handle uncertainty and emotional information.

It is not sufficient to simply postulate that creative potential, TU, and EI are mutually interrelated. We argue that it is necessary to identify the specific nature of such interrelations (in hypothetical DRSes) that are characterized, in part, by whether one belongs to a specific professional group. Such DRSes are formed through the development of expertise and mastery of professional skills and might also indicate self-selection into a profession. Verification of the hypotheses concerning DRSes would facilitate determining how the above-mentioned factors regulate the use of emotional context in decision making.

The first hypothesis we investigated in the study was that creative profession representatives should be characterized by higher levels of TU, as well as creativity and EI (components of the "Positive Triad"), because the respective processes interconnect in dynamic regulating systems (H1).

During one's development within the creative profession, their personal regulation of creative decisions and productive choices also evolves. Therefore, we can expect that creative professionals have higher levels of creativity in comparison with the creative profession student group (H2).

Verification of H2 required us to test the creative professionals whose creative abilities manifest themselves in creative achievements. We assessed groups of creative professionals who have a high expertise in a particular domain (writers, composers and stage-directors), which gave us an opportunity to further investigate the relationship between creativity and eminence, operationalized in terms of societal recognition for professional achievements (i.e., arguably representing the "Big C").

We have previously discussed the specific correlations between the components of the Positive Triad. The differences might be shaped by a specific profession, because attitude towards uncertainty and emotional intelligence is formed in professional education and at the same time they affect the choice of profession (Pavlova & Kornilova, 2012).

These variables are not isolated factors and therefore a tendency to use emotional context in decision making is not only related to the level of EI, TU and creativity, but also is partly determined by which variable leads in the dynamic regulating systems (becomes a predictor of the personal choice in verbal task). To investigate the relationships of these traits we studied their role in personal choice.

In order to study personal choice, we used a set of in-house designed verbal vignettes. The vignettes was created to evaluate the subject's tendency to rely on using the emotional context in navigating a specific social situation or interpersonal communication.

We expected that participants with higher EI would rely more on emotional context in these tasks (H3). The assumption about regulative role of EI in personal choice and higher level of EI among creative profession representatives allowed us to propose H4: creative

profession representatives should be characterized by a stronger orientation toward emotional context in comparison with the control group.

Based on the idea of DRSes, we also proposed **H5**: EI, TU and creativity act as the predictors of personal choice, and different groups of subjects will demonstrate different predictors in different tasks. DRS are understood as open hierarchical systems that form situationally and are characterized by uncertainty, i.e., it is impossible to determine beforehand what personal or intellectual traits would influence the decision. Therefore, we cannot hypothesize which variables are going to predict the choice in different groups.

The recruitment of different professional groups exemplifies the quasi-experimental approach and helps to distinguish the regulative roles of EI, TU and creativity in individuals with different professional requirements for the use of emotional context. To investigate these hypotheses, we used measures of EI, creativity, personal questionnaires, and verbal vignettes (assessing the propensity to use or ignore emotional context in different situations).

#### **METHODS**

# **Participants**

One hundred ninety-two creative profession representatives (students and professionals) participated in the study. We recruited 53 *creative professionals* (79.2% male, age Mnd = 45.54, SD = 10.17): 21 professional writers (80.9% male, age Mnd = 49.57, SD = 9.21); 18 professional composers (83.3% male, age Mnd = 44.61, SD = 9.21); 14 theatre and cinema directors (71.4% male, age Mnd = 40.31, SD = 12.78). All participants were carefully selected for the study based on their achievement in the field and recognition in the artistic community, e.g., most participants were winners of prestigious prizes.

Eighty six *creative profession students* also participated in this study: 24 students of Maxim Gorky Literature Institute (16.6% male, age Mnd = 22.13, SD = 5.59; writers); 35 students of P. I. Tchaikovsky Moscow State Conservatory (45.7% male, age Mnd = 23.03, SD = 2.54; composers); 28 students of S. Gerasimov Russian State University of Cinematography and State Institute of Theatre Arts directing departments (67.9% male, Mnd = 25.29, SD = 5.37).

Finally, fifty three *psychology students* from Lomonosov Moscow State University (20.8% male, age Mnd = 19.41, SD = 1.28) were recruited to participate in this study in return for partial course credit as a control group.

#### Measures

Personal Choice Involving the Use of Emotional Context. We constructed a set of verbal tasks (vignettes) to assess participants' tendency to use or avoid emotional context in four different situations: communication with a close friend, an acquaintance, the authorities, or with respect to self-understanding. The tasks involved different hypothetical interactional situations, and the provided alternatives imply either using or ignoring emotional context to "resolve" these situations (Pavlova & Kornilova, 2012) (see Fig. 1).

Verbal Creativity. Verbal creativity was assessed using two different measures: (1) the Creative Stories task, which is part of a comprehensive assessment of intelligence ROADS by Kornilov and Grigorenko (2010), and (2) the modification of Sternberg's Cartoon Task

(Pavlova & Kornilova, 2012; Sternberg & The Rainbow Project Collaborators, 2006). For the Creative Stories task (1), participants were asked to write a short story based on one of five proposed titles. For the Cartoon Task (2), participants were asked to write titles for six different cartoons. The responses were assessed by three and four experts, respectively, using scoring rubrics originally developed by Sternberg and colleagues: originality, complexity, emotionality, and descriptiveness or task appropriateness for the Creative Stories; originality, cleverness, humor, and task appropriateness for the Cartoon Task. Two final creativity scores for each participant were calculated using the multifaceted Rasch modeling (MFRM) approach as implemented in FACETS (Linacre, 2009). *Reliability of separation index* of Creative Stories = .85, *reliability of separation index* of Cartoons task = .67.

Figure 1. Example of a verbal vignette used in the study.

You meet your close friend and notice that he is upset about something, but when you ask him what happened he doesn't tell you right away; instead he replies that "everything's fine." When this person acts in this way, it is very difficult for you to talk to him. What would you do?

- (a) You wouldn't try to find out the reason by asking this person directly. Instead, you would ask your mutual friends about what happened and whether you can help.
- (b) You would understand that he probably needs your help, but you wouldn't ask persistently because he doesn't want to talk.
- (c) You would forget about it quickly because you have a lot of your own problems.
- (d) You would start talking about something else and lead the conversation to a point where your friend could tell you everything.
  - (e) You would find out what's going on using some other method, such as

    (fill in the blank)

Tolerance for Uncertainty. Tolerance/intolerance for uncertainty was assessed using the New Questionnaire of Tolerance for Uncertainty (Kornilova, 2010). This questionnaire consists of three subscales: tolerance for uncertainty (TU) as an ability to act in uncertain situations (Cronbach's  $\alpha = .67^{\$}$ ); intolerance for uncertainty (ITU) as a tendency to avoid uncertainty in the "world of ideas" (Cronbach's  $\alpha = .75$ ); interpersonal intolerance for uncertainty (ITU) as a tendency to seek certainty in interpersonal relationships (Cronbach's  $\alpha = .68$ ).

*Emotional Intelligence*. We used Lyusin's EI questionnaire (Lyusin, 2009) to measure emotional intelligence; this was a self-report measure that contained eight subscales: understanding emotions of others, managing emotions of others, understanding one's own emotions, controlling own emotions, control of emotional expression, summary subscales of managing emotions and understanding emotions, and the overall scales of interpersonal and intrapersonal EI. For our study, we used only the summative *interpersonal* (Cronbach's  $\alpha = .87$ ) and *intrapersonal EI* (Cronbach's  $\alpha = .82$ ) scores.

<sup>&</sup>lt;sup>‡</sup> In Item Response Theory, separation reliability is an index similar to Cronbach's α, if separation reliability is greater than .50, then the difference between measures are not due to measurement error (Myford, Wolfe, 2003, 2004).

<sup>§</sup>Relatively low Cronbach's α is typical for tolerance for uncertainty measures: it highly depends on the sample used and usually lies between .30 and .62, with mean in .59 (Furnham, 1994).

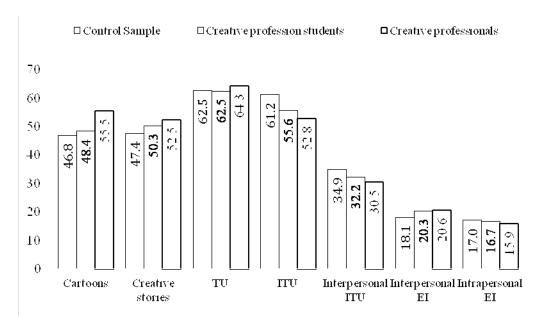
### **RESULTS**

# Mean differences between groups

Figure 1 shows the mean scores of creativity, tolerance/intolerance for uncertainty and emotional intelligence for the creative profession students, the creative professionals and the control group. Of these, only the interpersonal EI measures (t = -2.863, df = 287, p = .005) and the interpersonal ITU measures (t = 2.746, t = 118.76, t = .006) significantly differed between the two student groups. Therefore, **H1** was only partially supported.

At the same time, we found significant differences between groups of creative professionals and creative students in both creativity performance tasks: creative professionals were characterized by a significantly higher level of creativity as measured by Creative Stories task (t = -3.939, p < .001, df = 69.25), and tended to have higher scores in the Cartoons Titles task (t = -1.813, p = .073, df = 86.83). Thereby, **H2** is supported by results obtained in this study.

Figure 2. Mean scores for the creative profession students, the creative professionals and the control sample.



### Correlations among different components of the "Positive Triad"

The correlations between the variables were studied using the Spearman's  $\rho$  correlation coefficient (see Table 1, 2 and 3). The correlation between creativity (Creative Stories Task) and TU was significant for control group but not for creative profession

The "Positive Triad" of the regulation of personal choice among creative professionals

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Note \*p < 0.05, \*\*p < 0.01

students or creative professionals. Psychology students also showed negative and significant correlation between TU and both ITU variables while those correlations were not significant for both groups of creative profession representatives. We also found an expected significant correlation between interpersonal EI and intrapersonal EI for all three groups.

Both groups of creative professions representatives showed significant correlations between ITU and interpersonal ITU. Creative professionals showed significant correlations between TU and both interpersonal and intrapersonal EI. Finally we found a negative correlation between interpersonal ITU and intrapersonal EI.

The proposed triad "EI – creativity – TU" is more pronounced in the group of creative professionals in comparison with the creative profession students and the control group. However, only control group showed the correlation between creativity and TU.

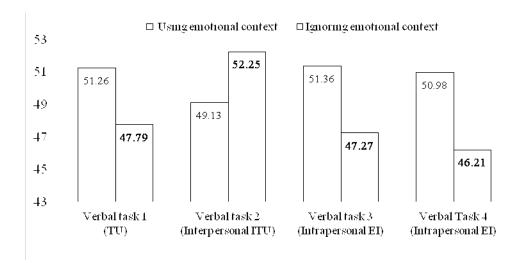
# Differences between participants who choose to use or ignore emotional context

We found that people who choose to use or ignore emotional context in verbal tasks differ significantly in TU, Interpersonal ITU and intrapersonal EI. Figure 3 shows means of these variables in groups of participants who choose to use or ignore emotional context in different verbal vignettes.

According to the results, those who chose to use emotional context have higher interpersonal EI for the vignettes related to communication with authorities (*verbal task 3*, t = -2.328, df = 161, p = .021) and understanding self (*verbal task 4*, t = -1.882, df = 33.302, p = .069). Therefore, **H3** was supported.

We also found tentative evidence that participants with higher TU and lower Interpersonal ITU tend to use emotional context in communication with close friends (*verbal task 1*, t = -2.066, df = 172, p = .040) and acquaintances (*verbal tasks 2*, t = 1.930, df = 168, p = .055).

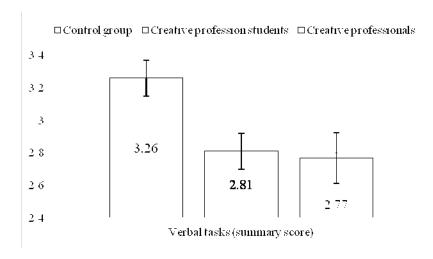
Figure 3. Means of TU, Interpersonal ITU and intrapersonal EI in groups of participants who choose to use or ignore emotional context in verbal tasks (for clarity, raw data converted to T-scores).



One-way ANOVA with post-hoc Bonferroni test was performed to determine whether creative profession students and creative professionals tend to rely more on emotional context in comparison with the control group. A sum of scores obtained for different verbal tasks was used as the dependent variable (here the maximum sum score was 4 for participants who had chosen to use emotional context in all four vignettes). The results revealed a significant difference between three groups: F = 4.512, p = .012, df = 2.

Figure 4 shows means and standart errors of verbal task summary scores of all groups. According to the results of the post-hoc test, control group tend to rely more on emotional context in comparison with creative profession students and creative professionals. Therefore, **H4** was not supported.

Figure 4. Means and standart errors of verbal task summary score in the groups of creative profession students, creative professionals and control sample.



### **Predictors of personal choice**

The predictors of personal choice were studied using binary logistic regression analysis (forward Wald). As shown in Table 5, tendency to use emotional context was predicted by Intrapersonal EI for the control group. Creative profession students showed a more diverse pattern of predictors of personal choice: TU for verbal task 1 (communication with a close friend), intrapersonal EI for most of the tasks, creativity in verbal task 2 (communication with acquaintances) and interpersonal EI in verbal task 4 (understanding oneself).

The predictors of personal choice of creative professionals are shown in forth column of Table 5: interpersonal EI predicted the choice in verbal task 1 (communication with a close friend), interpersonal ITU in verbal task 2 (communication with acquaintances), and TU and creativity in verbal task 4 (understanding oneself). Therefore, H5 was supported.

Table 5. Predictors of personal choice (dependent variable – verbal task choice, binary logistic regression, forward Wald).

	D 1.1 . 1 .	C	
	Psychology students (control group)	Creative profession students	Creative professionals
Verbal task 1	Intrapersonal EI	TU	Interpersonal EI
(communication with a close friends)	B =352	B = .080	B = .175
	Wald = 3.713	Wald = 4.744	Wald = 3.943
	p = .054	p = .029	p = .047
	•	Creative stories	Interpersonal ITU
Verbal task 2 (communication with acquaintances)		B = .435	B =142
		Wald = 3.909	Wald = 6.094
		p = .048	p = .014
		Intrapersonal EI	
		B = .175	
		Wald = 4.625	
		p = .032	
Verbal task 3 (communication with		Intrapersonal EI	
		B = .195	
		Wald = 4.986	
authorities)		p = .026	
Verbal task 4 (understanding onself)		Interpersonal EI	TU
		B =284	B = .230
		Wald = 5.337	Wald = 6.381
		p = .021	p = .012
		Intrapersonal EI	Cartoons
		B = .396	B = 2.822
		Wald = 7.016	Wald = 3.086
		p = .008	p = .079

### **DISCUSSION**

The results of the study only partly support H1, which predicted higher EI, TU and creativity of creative profession representatives. The hypothesized differences were found only for measures of interpersonal EI and interpersonal ITU. Creative profession students to have a lower level of interpersonal ITU (i.e., avoidance of uncertainty in interpersonal communication), and higher level of interpersonal EI in comparison with psychology students. We did not find a higher level of TU, as expected, but a low level of interpersonal ITU that signifies the tendency to accept uncertainty at least in interpersonal communication. At the same time, we found that creative professionals have a significantly higher level of creativity in comparison with creative profession students, which supports H2. This result is expected in correspondence with several lines of evidence that creativity develops through the acquisition of expertise in the professional activity of artists.

We found that creativity was associated with positive acceptance of uncertainty. However, this relationship only held for professions with high demands placed on tolerance for uncertainty (as was arguably the case for our control group of psychology students). At the same time, in creative groups, we did not find the correlations between measures of creativity and tolerance for uncertainty, which were instead found for psychology students.

EI correlated with TU only in the group of creative professionals. Therefore, we can infer that alongside development, EI becomes more integrated into the system of traits that form DRSs (this is possibly happening irrespective of profession but age only).

The positive correlation between ITU and EI is unexpected and requires a futher research. Possibly the tendency to seek certainty helps (or at least accompanies) psychologists to understand and identify emotions of others.

In our study we focused on personal choice as manifested in choices from alternatives under different scenarios (verbal vignettes). The results suggest that people with higher EI tend to use emotional context more in personal choice in verbal tasks (thereby choosing to use their EI to arrive at the decision). This result supports H5. At the same time, the use of emotional context was associated with TU (positively) and ITU (negatively). Decision making and choice assume uncertainty (caused by and manifested in the lack of ready criteria for choosing between alternatives, uncertainty about the final outcome, etc.), and we argue that uncertainty is a base for using emotional context. Therefore, it is expected that choosing to use emotional context is predicted by the ability to accept uncertainty and a lack of a tendency to seek certainty in interpersonal relationships.

TU and creativity predicted the choice in communication with close friends and an acquaintance for creative profession students. However, for the professionals, our older participants, these variables predicted choice in the vignette focused on understanding oneself. Intrapersonal EI predicted the choice in 3 of 4 tasks for creative students, and was not a significant predictor of choice for creative professionals. Interpersonal EI negatively predicted using emotional information in understanding oneself for creative students, and for creative professionals it (positively) predicted the choice in communication with close friends.

So the personal choice involving the use of emotional context depends not only on EI, TU and creativity, but also on which of these components lead the dymanic regulative systems (the leading components manifest themselves as the predictors in regressional analysis).

We found that creative profession students and creative professionals relied less on emotional context in verbal tasks when compared with the control group of psychology students, and hence H4 is not supported. Psychology students at the same time showed a lower level of EI, but tended to use it more often in comparison with creative profession students. It is likely that this pattern of results is reflective of the specificity of psychological education: psychologists are taught to look into emotions of others (but as we showed, not nessesary better in it). Enougher possible explanation concerns the measure used in this study: in Lyusin's EI questionnaire participants are asked to assess their level of EI. Psychological education might interfere with one's self-esteem of EI.

The results of this study support the **H3**: participants with higher EI tend to use emotional context in personal choice. We was able to clarify the impact of the task content on the choice. Participants with high intrapersonal EI chose to use emotional context in tasks modeling communication with authorities and understanding onself. At the same time, people with high TU (or low interpersonal ITU) chose to use emotional context in the tasks modeling communication with an acquaintance and with a friend.

The general hypothesis of this study was that creativity, TU and EI are involved in the regulation of choice and decision making. According to the notion of *dynamic regulative systems*, the leading regulative processes can be identified as predictors of personal choice. The results from binary logistic regression identified significant predictors of using/ignoring emotional context in personal choice. EI, TU, and creativity acted as significant predictors in the creative professional groups. At the same time, for the control group only Intrapersonal EI acted as a predictor. Finally, psychology students tend to rely more on emotions and interpersonal interaction: they were significantly different from other groups in measures of EI and interpersonal ITU, and they also tended to use emotional context more often than representatives of other professional groups. At the same time, they did not demonstrate significant correlations between EI and other variables. The special role of EI in psychology students is probably determined by the specificity of their education and/or at least partly predefined by their self-selection into the psychology profession. Each of the traits could potentially regulate personal choice in different *dynamic regulative systems* and situations. Different variables predicted different verbal tasks, these results support **H5**.

The results of this study also suggest that development of professional expertise and skill mastery associated with it (from student to professional stage of development) is accompanied by a shift to a higher role of interpersonal EI in choice and decision making. For psychology students, Intrapersonal EI acted as a predictor of personal choice in verbal vignette 1, while students of creative professions demonstrated a more diverse pattern of predictors. We thus suggest that adoption of a creative profession make "creative students" to rely more on interpersonal EI, creativity and acceptance of uncertainty.

Based on the results, we can verify our general assumption that each of the "Positive Triad" components can lead the regulation of the dynamic regulative systems. The task content as well as the professional and developmental characteristic of the person influence which exact variable would predict the choice.

Although the present study unveiled the relationship between the components of the "Positive triad" within creative professions to some extent, it has two limitations that need to be addressed in future research. First, we should generalize the impact of the profession on the components of the "Positive triad" cautiously because the sample of professionals was small.Moreover, hypotesis conserning the influence of EI on creativity (in terms of both "Big-C" and "little-c") require futher verification.

# **CONCLUSION**

In sum, we argued that EI, TU and creativity interact as the "Positive Triad". The evidence provided by this study indicates that the manifestation of this interaction depends on the profession and the professional level of a person. Creative profession representatives from the different stages of professionalization exhibit different connections between EI, creativity and TU. We found that creative professionals have higher levels of creativity, and psychology students have lower levels of interpersonal EI, but tend to use it. Whitin the dynamic regulation systems framework we supposed that the components of the "Positive Triad" can regulate personal choice. The results of this study support this assumption that the predictor of personal choice depends on the content of the situation and professional factors. We found that different traits work jointly and not independently in the regulation of

a productive choice under uncertainty. In this study we achieved the goal of identifying the predictors of choice. Future research may shred light on both interacting within the "Positive Triad", its role as a predictor of the personal choice, and also in the essence of the creative development.

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