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Procrastination can be a concerning issue and it is many times characterized as an unpleasant, hurtful and dysfunctional phenomenon. In a research conducted during 2005, over 95% of participants were expressing their desire that this behavior of procrastination would be reduced (Moon and Illingworth, 2005). The justification of this point of view has been reflected in several studies which succeeded to identify significant correlation between procrastination and individual performance, in which subjects who presented procrastination also registered general weaker performances (Beswick, Rothblum and Mann, 1988; Steel, Brothen and Wambach, 2001; Wesley, 1994). Also, other studies have emphasized the significant correlation between procrastination and well-being, in which subjects with high levels of procrastination reported deficiencies regarding the levels of long term well-being following associating the two (Knaus, 1973; Lay and Schouwenburg, 1995; Tice and Baumeister, 1997).

Procrastination can be considered “the syndrome of tomorrow” (Knaus, 2002). Most part of the available literature regarding this subject has focused on the negative side of procrastination. Ferrari and Tice (2000), for example, retrospect to procrastination as a type of putting one's self under disadvantage which is sometimes involved in defending self-esteem (Ferrari, 1991). On the other hand, Tice and Baumeister (1997) have noticed that procrastination may bring short term satisfaction, but on a long term it can generate high levels of stress and cognitive–behavioral dysfunction.

The medical domain has reported the fact that procrastination among patients represents a major issue (Morris, Menashe, Anderson, Malinow and Illingworth, 1990; White, Wearing and Hill, 1994). Procrastination frequently correlates to negative behaviors and outcomes, such as low academic performance (Carden, Bryant and Moss, 2004; Steel, 2004; Steel, 2002), lack of motivation (Brownlow
and Reasinger, 2000; Lee, 2005), various types of anxiety (Cassady and Johnson, 2002; Chabaud, Ferrand and Maury, 2010; Stöber and Joormann, 2001), utilizing strategies based on irrational thoughts (Beswick, Rothblum, and Mann, 1988) and may result in mental health problems (Dewitte and Schouwenburg, 2002; Ferrari and Scher, 2000), besides negative physical consequences (Sirois, Melia-Gordon, şi Pychyl, 2003; Tice and Baumeister, 1997).

Van Eerde (2003a) has conducted a meta-analysis of the studies related to procrastination, offering sound statistical results, but limited to the application domain.

The author's meta-analysis was based on 88 articles, but it did not include variables such as the effects of the individual's activity, or the conclusions reached related to the experimental studies; also the multiple facets related to the study of personality had not been taken into consideration (for example, traits such as extroversion or impulsiveness).

As many other common terms (from a linguistic point of view) which ulterior are involved in a process of elaboration specific to scientific study, the procrastination definitions tend to be almost as many as the number of researchers who investigate this subjects (Ferrari, Johnson and McCown, 1995). Initially, the variety of these definitions may shape the idea of hiding the nature of procrastination, but at a more careful research we can conclude to the fact that these definitions have the role of clarifying the concept itself.

Procrastination is nowadays studied as a problematic found in the psycho-emotional plan but also in the social plan (Critchfield and Kollins, 2001; Ainslie, 2005). A wider, general look would allow us to detach the fact that procrastination is part of the person's behavior starting with placing them into a certain environment to health, as such situations are reflected by concern conducts combined with a certain type of procrastination among individuals (Gallagher, 2008; Sirois, 2007).

Not at all surprisingly, procrastination has actually become a domain of interest for the behavioral economy area and has started to even influence public policies (Thaler and Sunstein, 2008; Lynch and Zauberman, 2006).

Despite this increase manifested in various domains leading to recognition and importance, the exact nature of procrastination is still under debate of research studies. Procrastination is based on irrational insuccess of completing tasks, and is explained as the modality of voluntarily hold off a course of action despite expectations (of the individuals) that this fact would be worse as delaying (Steel, 2007). Such point of view is consistent with specific neurobiology information, respectively that the intentions (of a person) on a long term are concluded or built mainly in the pre-frontal cortex, only that they can be replaced by impulses generated by the limbal system, which is extremely sensitive to concrete stimuli centered on immediate gratification (Kahneman, 2003; McClure, Ericson, Laibson, Loewenstein and Cohen, 2007).

The result consists in the fact that people propose to take action but let go at the given time, as they notice their preferences suddenly change depending on the
existence of pleasant temptation. This fact might explain why impulsiveness is one of the strongest correlated traits to procrastination, as the significant correlation obtained in recent studies reached 0.52 (Steel, 2007).

In cognitive psychology, procrastination has received positive explanations regarding problem-solving patterns. Researchers think that procrastination implies a period of incubation which is necessary for subconscious processing. At the moment when a person’s mind notices the presence of a problem and decides to solve it later, that does not mean that their mind does not work in meantime. During this “fruitful gestation” period, people do not always look for something new, but they process facts which have been forgotten. Many individuals confront such blocking or fixing periods when they try to find the solution to a problem. Only after being focused on another activity, they eventually come up with a creative solution (Klassen et al., 2008). Delaying the finalization of a task could therefore play an important role in coming up with solutions for the people who creatively practice that necessary period of incubation (van Eerde, 2003a).

Procrastination is also conceptualized as a motivation strategy found under self-monitoring. This fact implies the “I work better under pressure” syndrome. As previously mentioned results of several research studies have shown that people do not procrastinate without a process of discrimination, so that tasks perceived as boring are more likely, compared to the ones perceived as interesting, to be postponed for the next day (Blunt și Pychyl, 2000).

REFERENCES


INTRINSIC MOTIVATION AND EMOTION MANAGEMENT IN SHAPING ATHLETE’S CONDUCT

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Abstract
It is known that, during a sport competition, mental pressure is high and this inevitably leads to a series of strong emotions, sometimes to the detriment of the athlete. To cope, the athlete must demonstrate not only outstanding driving skills, but also appropriate management of emotions. The results of present investigation highlighted the need for enhancing intrinsic motivation of athletes in order to better regulate their emotions. The paper discusses the theoretical model of this relation and launches a proposal to be included in practice - "Journal of motifs of emotions".

Cuvinte cheie: motivație, managementul emoțiilor, sportivi, modelarea conduitei.
Keywords: motivation, emotion regulation, athletes, conduct shaping.

1. INTRODUCTION

In shaping sport conduct, emotion management plays a very important role. Mental pressure during a competition often generates strong positive or negative emotions. The athlete loses control over them, which may lead to inappropriate behaviours (inertia/aggression). The topic of our investigation is intrinsic motivation the base for managing emotions. The aim is not to study the concept, but to find practical solutions to shape athletes behaviours - such a solution might be "The journal of motifs of emotions".

The concept of emotion management captures intra- and interpersonal levels at which the person must make the effort to behave as prescribed (Fineman, 2003). Hochschild proposed the term "emotional labor" to describe the management of emotions in order to "display a mimic and gesture publicly observable" (Hochschild, 1983/2003, p.7). Management requires a conscious effort to change the emotions in accordance with the rules of the rules for expression of emotions.
specific to the organization (Chelcea, 2008), profession (Truta & Indreica, 2010) or
to the context.

The concept of motivation appoints the energetic, dynamic aspect of human
behavior. G. Allport calls it the "system of acquired tensions" representing the
"engine" of the personality (Allport, 1981, p. 223). In the literature are found many
definitions of motivation (Allport, 1981; Cosmovici, 1996; Magher, 2005) but
whatever the definition, motivation consist in motifs. The motive is the
psychological phenomenon that plays a key role in triggering, orienting and
changing of behaviour (Magher, 2005).

2. EMOTION MANAGEMENT AND INTRINSIC MOTIVATION

Apparently, the terms of emotion management and emotional regulation are
equivalent, but they can be differentiated according to the magnitude of the
described phenomenon. The concept of emotion regulation is defined as the effort
that individuals submit to amplify, maintain or decrease one or more aspects of an
emotion (Gross & Thompson, 2007), while emotion management refers to
regulation of emotion in specific contexts. Models of emotion claim that emotions
are manifested through different types of responses to triggering events. These
responses include action tendencies, cognitive tendencies, physiological changes,
facial expressions, body expressions, internal subjective experiences. Individuals
can regulate emotions by changing one or more responses (Cote, Moon & Miners,
2008).

Forms of emotion regulation can be differentiated based on their
synchronization with the generation and deployment of an emotional response.
People can regulate emotions by changing the components that occur relatively
early in the process of generating an emotion, when they change how they evaluate
events, or relatively late during the generation of emotions, when they change their
facial expression (Gross, 2008). Also, emotions can be adjusted in two directions:
can be amplified by initiating or intensifying them, or may be suppressed by
reducing or eliminating them (Hochschild, 1983/2003).

Individuals can regulate emotions in five distinct moments of the generation
and deployment of an emotion. These five points represent the five types of
emotion regulation processes: selecting the situation, changing the situation,
diverting attention, the cognitive changes, modulation response (Gross, 2008),
differentiated by time of emotion generation process in which they impact.

Research on emotion management have implemented the regulatory processes
in terms of regulation of inner feeling - "deep acting" and regulation of emotional
expression - "surface acting". Regulation of expression and regulation of inner
feeling produce behavioural manifestations but through different mechanisms
(Glomb & Tews, 2004). In situations of emotional expression control people
simulate, when requested, emotions that are not truly felt, by changing their facial
expressions, gestures, tone of voice to be consistent with the emotional rules. We
speak of deep acting when individuals change not only their facial expression but
also the internal feelings through the use of imagination or by recalling pleasant experiences to generate positive appropriate emotions, for example. Some authors consider that regulating emotional expression involves the ability to deceive others about the emotions experienced (Theodosius, 2008). Both deep acting and surface acting may be functional responses to requests of the competition.

Most authors approach the characteristics of the organization as predictors of emotion management - organizational rules for displaying emotions, supervision, training (Kruml & Geddes, 2000; Morris & Feldman, 1996). Recently, attention has shifted to the antecedents at individual level: affective characteristics, behavioural and dispositional traits, including job satisfaction, personality, and cognitions (Glomb & Tews, 2004).

Discussions of gender as a determinant of emotion management are yet quite controversial. There are some authors who consider that how emotions are perceived or expressed is strongly influenced by gender (DeCuir-Gunby, Long-Mitchell, & Grant, 2009).

Several features of emotion regulation, as presented in the Gross’ model (Gross, 2008; Gross & Thompson, 2007), may serve as theoretical premises in the construction of interventions designed to assist individuals to adopt efficient strategies. Efficiency is given, invariably, by the low costs of employment in regulatory processes and reduced negative consequences of these processes.

Through practice we can reduce the costs to the individual and the emotional adjustment effort he make to conscious regulate emotions.

Regarding motivation, it takes many forms. We can talk about: primary and secondary motivation; intrinsic and extrinsic motivation; cognitive motivation; emotional motivation; positive or negative motivation; socio-professional motivation; individual or collective motivation; own motivation or implied; achievement motivation; affiliation motivation; motivation for efficiency etc. Andrei Cosmovici mentions that sometimes motivation merges with the action itself (Cosmovici, 1996). Indeed, motivation is present in every action we are aware of or not, but the process is reversed: the action merges with motivation for the activity from which is part. Although motivation appears only in the activity, it is reflected in the related actions since motifs are satisfied only in the actions or through action results. Human behaviour is not dependent of external stimuli and, also, it is not dominated by internal parameters that influence the dynamics of needs (Magher, 2005).

The two types of motivation (extrinsic and intrinsic) cannot be approached separately, even if they are totally differentiated by characteristics, and can be approached by their own indicators to support various hypotheses (Sengodan & Iksan, 2012). The two forms of motivation are interrelated: external causes acting through internal conditions and internal causes are favoured by external conditions.

According to Schanb and Zenke (2001), extrinsic motivation is a set of behavioural impulses that originate in a positive or negative reinforcement while intrinsic motivation is given by behavioural and performance pulses originating in satisfaction of certain modes of conduct. And, according to Myers, intrinsic
motivation is the desire to adopt behaviour for its own and to be effective, while extrinsic motivation means seeking external rewards and avoid punishments (Myers, 2001). Extrinsic motifs are indirect, external to the related action, which remains essentially a mean of achieving the goal. Intrinsic reasons are straightforward, satisfied by fulfilling the appropriate action. Depending on the dominance of these motifs we can talk about the two types of motivations.

3. **OBJECTIVES**

- Objective 1 – to determine the level of intrinsic and extrinsic motivation to the group of athletes investigated.
- Objective 2 – to determine the frequency of factors influencing the two types of motivation in sport.
- Objective 3 – to analyze the needs of athletes related to emotion management.

4. **METHOD**

4.1. **PARTICIPANTS**

The initial sample consisted of 167 students from the Faculty of Physical Education and Sport, from Transilvania University of Brasov, of which eight returned incomplete questionnaires, and three refused to complete. In the final sample of 156, 89 were students in the first year and 77 in the second year of study, being a heterogeneous group in terms of age (see table no. 1).

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>72</td>
<td>46,2</td>
</tr>
<tr>
<td>19</td>
<td>37</td>
<td>23,7</td>
</tr>
<tr>
<td>20</td>
<td>21</td>
<td>13,5</td>
</tr>
<tr>
<td>21</td>
<td>18</td>
<td>11,5</td>
</tr>
<tr>
<td>22</td>
<td>3</td>
<td>1,9</td>
</tr>
<tr>
<td>23</td>
<td>5</td>
<td>3,2</td>
</tr>
<tr>
<td>Total</td>
<td>156</td>
<td>100,0</td>
</tr>
</tbody>
</table>

Distribution of gender was unbalanced as in the sample was a predominance of the male gender (76.28%) to female respondents (23.72%). Regarding the origin, 44 respondents are from rural areas and 112 from urban areas.
4.2. INSTRUMENTS

Two questionnaires were used:

1. Motivation questionnaire (adapted from Magher, 2005), comprising seven indicators of motivation, each with 10 to 17 items, rated on a scale response from 1 - very low (VL) 5 - very high (VH); the motivational indicators were: the level of interest for the study (LIS), the level of interest in activities extra-sportive (LIEA), the level of interest in leisure activities (LILA) orientation of interest towards mandatory sports activities (OIMSA), the level of mobilization for activity (LMA), the level of response to requests (LRR), motivational factors (MF). Each indicator was given a certain number of points: LIS min 10 - max 50; LIEA min 10 - max 50; LILA 17 min - max 85; OIMSA min 11 - max 55; LMA min 10 - max 50; LRR min 12 - max 60; MF min 11 - max 55. Beside each indicator the type of motivation is also computed: EM (extrinsic motivation) if interest is triggered by external respondent, IM (internal motivation) where his interest is triggered by internal sources.

2. The second questionnaire focused on the needs analysis for emotion management, in order to shape athletes conduct. The questionnaire included 12 items with open response, and was built on Maslow's theory. Examples of items: Do you think that the correct identification of the emotions is necessary to those in competition context? Point two to three solutions for reducing anger of an athlete in competition? Knowing your emotions help you to...? What can be the consequences of losing self-control during a competition? Collected data was analysed through thematic content analysis.

5. FINDINGS

Data obtained from measurement of indicators of intrinsic and extrinsic motivations, revealed increased percent of extrinsic motivation. Frequencies obtained for motivational indicators are presented in Table 2. The type of motivation that influences the levels of interest in the study (LIS) showed a high frequency, 147 respondents indicating an extrinsic motivation. Similar results were recorded for the type of motivation that underlies the level of interest in activities extra-sport (LIEA), as shown in Table 2. Regarding the type of motivation that determines the level of interest in leisure activities (LILA) results show the highest percentage for intrinsic motivation (34 %) - 53 of the respondents finding satisfaction in freely chosen activities. However, it is a rather low percentage considering that this indicator only included items referring to any type of activity chosen voluntarily.
Regardless the type of activity, orientation of interest towards mandatory sport activities (OIMSA), the level of mobilization for activity (LMA) or level of responsibility to requirements (LRR), extrinsic motivation dominates – respondents finding satisfaction rather in material rewards or benefits than in immediate results (even if they are at a high level). Analysis of motivational factors (MF) reinforces the results obtained at the other seven indicators: respondents are motivated mainly by extrinsic factors - the facilities, instructions, regulations, financial rewards, workout, supporting others, social status. Group comparisons were performing in order to identify possible gender differences regarding the motivation indicators. No significant differences were identified. Female and male students are extrinsic motivated for each most types of activity. Also, no significant differences were found between students of different ages. It seems that athletes have similar motivational dominants regardless of their gender, age, year of study or provenience environment.

The data from the needs analysis questionnaire, in terms of emotion management in order to shape sport conduct, revealed the importance of collaboration between sport and psychological counsellor. The indicators revealed by the thematic analysis, with frequencies, are presented in table 3. As observed, the self-esteem need and respect need are dominant, which leads to the necessity of shaping conduct by managing emotions. Several relevant answer of respondents were: "team members listens to me during the game because I am aggressive and they know that if I go nuts if we don't win; but, after the game, no one respects me" (S48, male); "...when getting angry, I swear like a truck driver, and after I calm down, I'm ashamed of what I said" (S105, male); "Friends tell me they do not recognize myself during competitions, so badly I lose my temper; my first lover left me because of it; I want to keep my current relationship, but I 'm afraid he already considers me crazy" (S92, female).
Table 3 – Results of need analysis regarding emotion management (N = 156)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficient interpersonal communication</td>
<td>152</td>
<td>97.43%</td>
</tr>
<tr>
<td>Positive networking</td>
<td>143</td>
<td>91.66%</td>
</tr>
<tr>
<td>Conflict management</td>
<td>121</td>
<td>77.56%</td>
</tr>
<tr>
<td>Performance enhancing</td>
<td>117</td>
<td>75.00%</td>
</tr>
<tr>
<td>Personal development</td>
<td>89</td>
<td>57.05%</td>
</tr>
<tr>
<td>Self-knowledge</td>
<td>84</td>
<td>53.84%</td>
</tr>
<tr>
<td>Developing self-control</td>
<td>72</td>
<td>46.15%</td>
</tr>
<tr>
<td>Enhancing intrinsic motivation</td>
<td>61</td>
<td>39.10%</td>
</tr>
<tr>
<td>Correct identification of emotions</td>
<td>58</td>
<td>37.17%</td>
</tr>
<tr>
<td>Empathy development</td>
<td>44</td>
<td>28.20%</td>
</tr>
<tr>
<td>Resistance to frustration</td>
<td>42</td>
<td>26.92%</td>
</tr>
<tr>
<td>Developing positive character traits</td>
<td>38</td>
<td>24.35%</td>
</tr>
</tbody>
</table>

Among other things, respondents acknowledge the negative effects on athletic performance of loss of self-control: "If I get angry, I cannot think of the game" (S71, male); "After the opponent makes me angry, I began to tremble, and I cannot hit the ball" (S118, male); "I recover hard after an episode of anger, and sometimes victory depends on the reaction time" (S63, male).

6. CONCLUSIONS

In addition to psycho-genetic factors, policymakers factors, social and cultural factors are also involved in motivational network and temporal-historical dimension should also be mentioned. Managing emotions in athletes has become a necessity not only to increase efficiency but also to decrease negative conduct. One such study by Mowlaie and colleagues (Mowlaie et al., 2011) on the relationship between anger and athletic performance highlighted the role of self-confidence and self-efficacy on them.

When approaching the management of emotions to shape the conduct of athlete, based on the results of the needs analysis, only the first category of factors, the psycho-genetic are taken into consideration. Also, the method is based on the reflection and the individual. Working with a psychologist/counsellor is not compulsory, but increases the chances of adaptation. Nowadays, the results of the study justified the implementation of a method to develop emotion management in athletes, called by us "journal of motifs of emotions ", which is under theory development.
REFERENCES

REZUMAT

Se cunoaște faptul că, la o competiție sportivă, presiunea psihică este mare și aceasta duce inevitabil la o serie de emoții puternice care, uneori, sunt în detrimentul sportivului. Pentru a face față, sportivul trebuie să dea dovadă nu numai de aptitudini motrice deosebite, dar și de o bună gestionare a emoțiilor. Rezultatele unei investigații constatative au evidențiat necesitatea cultivării la sportivi a motivației intrinsecă pentru un management al emoțiilor. Prezentul articol tratează la nivel teoretic acest aspect și lansează o propunere de inserție practică – "jurnalul motivelor emoțiilor".
Abstract

Consumer decision-making styles vary across cultures, as previous studies suggest. This paper intends to identify the factorial structure of Consumer Style Inventory (Sproles & Kendall, 1986) on a sample of youth Romanian consumers, being the first attempt in this direction. Also, the possible relations with personality variables were investigated. The findings offer support for an extended analysis of consumer decision-making styles are being influenced by both cultural and personal factors.

Keywords: consumer decision-making style, positive/negative affectivity, personality.

1. INTRODUCTION

The topic of consumer decision-making styles is of real interest in consumer behavior research area as it offers a valid and efficient criterion for understanding consumers’ decisions and market segmentations accordingly. A consumer decision-making style was defined by Sproles and Kendall (1986) as a cognitive orientation towards shopping and purchasing. The two authors consider the styles as being a pattern, a general predisposition, ever-present, that allow prediction of purchase decisions. The decision-making style includes not only cognitive components regarding consumer beliefs and search and use of available information, but also includes affective components and elements of the lifestyle (Sproles & Kendall, 1986; Mokhli, 2009a).

Even though conceptualized as a personal orientation, most studies focused in establishing the generality of decision-making styles across different population including American culture (Sproles & Kendall, 1986; Lysonski, Durvasula, & Zotos, 1996), Chinese culture (Fan & Xiao, 1996), or African culture (Radder, Li, & Pietersen, 2006). These studies confirmed that decision-making styles are...
strongly influenced by cultural factors. The model established by Sproles and Kendall on the American population was not completely reproduced in none of the other investigated cultures. The model consists in eight mental characteristics of decision making styles: Perfectionistic, high-quality conscious consumer, Brand conscious, “price equals quality” consumer, Novelty-fashion conscious consumer, Recreational, hedonistic consumer, Price conscious, “value-for-money” consumer, Impulsive, careless consumer, Confused by overchoice consumer, Habitual, brand-loyal consumer. The Consumer Style Inventory build by the two authors is recommended to be tested before being used in different cultural settings.

2. OBJECTIVE AND HYPOTHESES

2.1. OBJECTIVE
The first objective of the study aimed at establishing the factorial structure of the Consumer Style Inventory on a sample of youth Romanian consumers. Youth consumers are gaining more power (Chase, 2004) and are target of prospect and promotion as marketers tries to make them loyal consumers in the future.

The second objective of the study was to investigate the personality correlates of consumer decision-making styles. We assume that the individual differences in consumers' mental orientation towards buying and shopping can be associated with personality factors and affectivity (measured as a personality trait).

2.2. HYPOTHESES
Two research hypotheses were formulated for the second objective:
- Consumer decision-making styles are associated with personality factors (especially with extraversion, agreeableness, and conscientiousness).
- Consumer decision-making styles are associated with affectivity trait (positive/negative affectivity).

3. METHOD

3.1. PARTICIPANTS
Participants in the study were 184 students attending different study programs in one medium sized university in Romania. There were 57 male students (31% of participants) and 157 female students (69% of participants), with a mean age of 21.3 years (σ = 4.63). Participants were asked to declare their monthly income and the average amount of money they spent monthly on goods and services for personal use. 53.6% of respondents declared a monthly income below minimum wage in Romania. When declaring monthly income participants were asked to take into consideration money coming from scholarships, parents (or other legal representatives) and pecuniary activities they were engaged into. Monthly amount of money students declared to spend varied strongly within the sample (m = 765 RON, σ = 516.14).
3.2. INSTRUMENTS

Consumer Style Inventory (CSI) (Sproles & Kendall, 1986) is, nowadays, the most frequent used measure of consumer decision-making styles. Based on a thoroughly literature review, the authors identified 50 characteristics of consumers related to their orientation, both cognitive and affective, towards buying and shopping. These characteristics were grouped in eight decision-making styles, each style being measured with a 5-point Likert scale. The reliability coefficients for CSI subscale range from 0.48 to 0.76 (Sproles & Kendall, 1986). For the present study, items were translated into Romanian language with minor changing in wording.

An adapted version on Romanian population (Rusu, Maricuţoiu, Macsinga, Virgă, & Sava, 2012) of the IPIP-50 Big-Five Factors Markers (Goldberg, 1992) was used to measure extraversion, agreeableness, conscientiousness, emotional stability and intellect/imagination. This measure of personality was developed within the International Personality Item Pool in order to identify personality markers. The instrument does not allow assessment of individual differences in terms of factors’ facets. Still, it is a valid measure of the Big-Five personality factors (with α Cronbach coefficients ranging from 0.73 to 0.84 – for the adapted version on the Romanian sample) (Rusu et al., 2012).

Positive Affectivity/Negative Affectivity Scale – PANAS (Watson, Clark, & Tellengen, 1988) measured levels of positive/negative affectivity trait. The instrument consists in 20 items denoting discrete emotions which can be assessed according to frequency of experiencing them in the last few days, in the last few weeks or in general. In the present study we asked respondents to evaluate their general emotion experience. The authors reported good reliability (α Cronbach = .88 for PA, and .87 for NA) and validity of the scales.

4. FINDINGS

Exploratory factor analysis was performed in to identify the factorial structure of Consumer Style Inventory on the Romanian Sample. Both Keiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett’s test of sphericity had values that allow the analysis. Initially, the exploratory factor analysis through principal components methods reveal a factorial structure with 11 factors with Eigen values above 1.01. After performing Varimax rotation of factors, we decided to keep only five factors for the further analysis (we eliminated rest of the factors as they had low Eigen values – below 1.3 and only one or two items loaded those factors). Also, internal consistency analysis of the identified factors sustained the decision to eliminate several items from the scale (those with correlation coefficients with the scale below 0.3). Results of the factor analysis presented in Table 1 led us to an adapted form of CSI with only 29 items and 5 factors.
Table 1. Factor analysis results for CSI on a Romanian sample (Items are presented in Romanian language)

<table>
<thead>
<tr>
<th>Items</th>
<th>Factors loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Este foarte important pentru mine să cumpăr produse de bună calitate</td>
<td>.777</td>
</tr>
<tr>
<td>Am branduri favorite de la care cumpăr mereu</td>
<td>.385</td>
</tr>
<tr>
<td>În general încerc să cumpăr produse de cea mai bună calitate</td>
<td>.720</td>
</tr>
<tr>
<td>Caut cu atenție cel mai bun raport calitate/preț</td>
<td>.410</td>
</tr>
<tr>
<td>Cumpăr de fiecare dată din aceleași magazine</td>
<td>.430</td>
</tr>
<tr>
<td>Fac un efort deosebit pentru a alege produsele de cea mai bună calitate</td>
<td>.581</td>
</tr>
<tr>
<td>Imi acord timp pentru a căuta cu atenție cele mai bune produse</td>
<td>.458</td>
</tr>
<tr>
<td>Nu mă gândesc mult și nu acord foarte multă grijă achizițiilor mele*</td>
<td>.434</td>
</tr>
<tr>
<td>Așteptările mele față de produsele pe care le cumpăr sunt foarte mari</td>
<td>.684</td>
</tr>
<tr>
<td>Mersul la cumpărături nu este o activitate plăcută pentru mine*</td>
<td>.767</td>
</tr>
<tr>
<td>Să merg la cumpărături este una dintre cele mai plăcute activități din viața mea</td>
<td>.704</td>
</tr>
<tr>
<td>Să merg la cumpărături în magazine imi iroșește timpul*</td>
<td>.710</td>
</tr>
<tr>
<td>Imi place să fac cumpărături doar pentru că este distractiv</td>
<td>.750</td>
</tr>
<tr>
<td>Este distractiv să cumpăr ceva nou și interesant</td>
<td>.629</td>
</tr>
<tr>
<td>Cele mai cunoscute branduri naționale sunt cele mai bune pentru mine</td>
<td>.724</td>
</tr>
<tr>
<td>Aleg de obicei cele mai scumpe branduri</td>
<td>.444</td>
</tr>
<tr>
<td>Odată ce am găsit un produs sau un brand care imi place, îi devin fidel</td>
<td>.406</td>
</tr>
<tr>
<td>Cu cât prețul este mai mare cu atât calitatea este mai bună</td>
<td>.691</td>
</tr>
<tr>
<td>Magazinele de specialitate imi oferă cele mai bune produse</td>
<td>.567</td>
</tr>
<tr>
<td>Prefer să cumpăr cele mai bine vândute branduri</td>
<td>.647</td>
</tr>
<tr>
<td>Brandurile cele mai promovate sunt de obicei alegeri foarte bune</td>
<td>.733</td>
</tr>
<tr>
<td>De obicei am una sau mai multe ținute în pas cu cele mai noi tendințe</td>
<td>.792</td>
</tr>
<tr>
<td>Garderoba mea este în pas cu moda</td>
<td>.782</td>
</tr>
<tr>
<td>Stilul atractiv și în pas cu moda este foarte important pentru mine</td>
<td>.769</td>
</tr>
<tr>
<td>Există atât de multe branduri din care pot alege, motiv pentru care adesea mă simt confuz</td>
<td>.629</td>
</tr>
<tr>
<td>Uneori imi este greu să aleg din ce magazin să-mi fac cumpărături</td>
<td>.564</td>
</tr>
<tr>
<td>De multe ori fac achiziții în grabă, pe care ulterior imi doresc să nu le fi făcut</td>
<td>.621</td>
</tr>
<tr>
<td>Cu cât aflu mai multe informații despre produse, cu atât imi este mai greu să îl aleg pe cel mai bun</td>
<td>.750</td>
</tr>
<tr>
<td>Toate informațiile despre diferite produse mă fac să mă simt confuz</td>
<td>.725</td>
</tr>
</tbody>
</table>

| Alpha Cronbach | .78 .82 .79 .89 .71 |
| Eigen Value    | 6.5 3.94 3.28 2.36 1.84 |
| (%) Variance explained | 16.27 9.86 8.20 5.90 4.62 |
| KMO index      | .75 |

*Reverse coding

The five-factor structure of CSI – Romanian version that several previously investigated characteristics of mental orientation towards buying and shopping are
not applicable to investigated sample of Romanian youth consumers. The five kept factors were:

- **F1 – perfectionistic, high-quality conscious consumer** - describes consumers who seek high-quality goods and products. Those scoring high at this factor are more carefully and more attentive when shopping.
- **F2 – hedonistic consumer** – is characterized by the joy of shopping. Those scoring high at this factor consider shopping a recreational activity, invest more time and more energy in this activity.
- **F3 – brand conscious consumer, price reflect quality** – describes the consumer interested in buying products of well-known and well-promoted brands. Those scoring high at this factor consider that price reflect quality and the popularity of the brand.
- **F4 – novelty-fashion conscious consumer** – capture the importance consumers give to fashion and novelty. Those scoring high at this factor are more prone to gain pleasure and enthusiasm from search of new products and stores.
- **F5 – confused by overchoice consumer** – describes the way consumers use information about products when making a decision. Those scoring high are more prone in feeling overwhelmed by the many buying alternatives they face.

The identified factorial structure which differs considerably from the one established by Sproles and Kendall (1986), but, as presented in the Introduction section of the paper, differences are recorded in most of the studies aiming at adapting CSI on various population. For example, Fan and Xiao (1996) on a sample of Chinese respondents found also a structure in five factors with time conscious style included, while Radder, Li, and Pietersen (2006) revealed in their analysis the perfectionist, confused, brand, hedonistic and habitual styles.

The second objective of the paper aimed at establishing the personality correlates of consumer decision-making styles in terms of personality factors and affectivity. We assumed that extraversion, agreeableness and conscientiousness are associated with consumer styles (Table 2). Surprisingly, all personality factors measured with IPIP-50 correlate to variant extend to consumer decision-making style. Extraversion, as expected, is positively associated with hedonistic style and novelty-fashion conscious styles. The correlations are not strong but significantly illustrate that extraverts tend to make buying decision based on the pleasure they gain from this activity. Also, extraverts are more interested in shopping new products. They are more willing to try new shops or new payment methods, while considering shopping a recreational activity. The hedonistic style of decision-making is also weakly positively associated with agreeableness and negatively associated with emotional stability.
Table 2. The correlation matrix of CSI factors and IPIP markers

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.Perfectionistic style</td>
<td>.203**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.Hedonistic style</td>
<td>.396**</td>
<td>.159*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.Brand conscious style</td>
<td>.195**</td>
<td>.503**</td>
<td>.342**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.Novelty-fashion style</td>
<td>-.056</td>
<td>.163*</td>
<td>.221**</td>
<td>.082</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.Confused style</td>
<td>.048</td>
<td>.285**</td>
<td>.086</td>
<td>.282**</td>
<td>-.088</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.Extraversion</td>
<td>.060</td>
<td>.159*</td>
<td>-.070</td>
<td>.052</td>
<td>-.080</td>
<td>.387**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.Agreeableness</td>
<td>.188*</td>
<td>.064</td>
<td>.144</td>
<td>.142</td>
<td>-.310**</td>
<td>.180</td>
<td>.322**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.Conscientiousness</td>
<td>-.029</td>
<td>-.228**</td>
<td>.087</td>
<td>-.055</td>
<td>-.224**</td>
<td>.230**</td>
<td>-.054</td>
<td>.156</td>
<td></td>
</tr>
<tr>
<td>9.Emotional Stability</td>
<td>.272**</td>
<td>.026</td>
<td>.057</td>
<td>-.056</td>
<td>-.376**</td>
<td>.357**</td>
<td>.238**</td>
<td>.237**</td>
<td>.161*</td>
</tr>
</tbody>
</table>

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

Conscientiousness, emotional stability and intellect negatively correlate with confused style (with correlation coefficients between .22 and .37 at p ≤ .01), which suggests that consumers confused by overchoice of products are those disorganized, superficial, lacking imagination and instable. On another side, both conscientiousness and intellect positively correlate with perfectionistic, high-quality conscious styles, which was expected taken into consideration that this style invest time and cognitive resources to make buying decisions. Brand conscious style is not correlated with none of the Big Five personality factors, which may suggests that this style is more influenced by cultural and social factors as previous studies suggests (Sproles & Kendall, 1986).

Table 3. The correlation matrix of CSI factors and PA/NA

<table>
<thead>
<tr>
<th>Variables</th>
<th>Positive Affectivity</th>
<th>Negative Affectivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.Perfectionistic style</td>
<td>.255**</td>
<td>.032</td>
</tr>
<tr>
<td>2.Hedonistic style</td>
<td>.007</td>
<td>.111</td>
</tr>
<tr>
<td>3.Brand conscious style</td>
<td>.064</td>
<td>-.067</td>
</tr>
<tr>
<td>4.Novelty-fashion style</td>
<td>.075</td>
<td>-.087</td>
</tr>
<tr>
<td>5.Confused style</td>
<td>-.185*</td>
<td>.212**</td>
</tr>
</tbody>
</table>

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

Regarding the assumed associations between CSI factors and positive affectivity/negative affectivity traits, results indicate weak correlations (Table 3). Positive affectivity is related with perfectionistic style, while confused style registered with both positive affectivity (the correlation being, as expected, negative) and negative affectivity.

5. DISCUSSION AND CONCLUSIONS

The topic of consumer decision-making style as being influenced by both personality and cultural factors is new in the area of consumer behavior studies.
Several authors suggest that the strong differences identified in applying the Consumer Style Inventory in different countries is a valid indicator of cultural influences on consumers buying decisions. Still, taking into consideration Sproles and Kendall’s (1986) conceptualization of decision-making styles as mental orientation towards buying and shopping, it is plausible to also investigate personality differences associated with decision-making styles.

In the present study, we aimed at reaching both aspects of this topic and findings on the Romanian sample are encouraging. On the investigated samples of youth consumers, CSI revealed a factorial structure consisting in five factors with 11 items being eliminated as they proved weak factors loadings and scale correlations. As there are no previous studies on Romanian samples with this instrument, and the studies on East-European cultures are limited, we cannot conclude that this version of CSI (with 29 items and five factors) is ready for use on Romanian population. More confirmatory studies, on different samples, should be made.

The significant relations found between personality factors and decision-making styles sustain the hypothesis of individual differences in these styles. The perfectionistic, high-quality conscious consumer is a conscious, attentive individual, open to experiences and intelligent. Also, the perfectionistic consumer experiences positive emotions frequently. The hedonistic consumer seek pleasure in shopping, is extravert, with high levels of agreeableness and emotionally stable. Experience of positive or negative emotions are not associated with his buying decisions, rather his energy, flexibility and independence differentiate him from the other styles. The novelty-fashion conscious consumer is also an extravert, results suggest that this style and the previous one might be similar in terms of pleasure seeking and extravert orientation. The confused by overchoice consumer style registered multiple correlations with both personality factors and affectivity. It seems that this style is most strongly influenced by personality. Unfortunately, those scoring high at this style are both emotional unstable and experience frequent negative emotions which make this style prone to marketing influences. The brand conscious consumer is the only style not associated with personality factors. It seems that this style is more strongly influenced by cultural factors than the previous ones.

All findings of present study should be regarded as relevant for youth Romanian consumers, which earn their income mainly from their family and have particular buying and shopping experiences characterized by a strong interest in expressing their own personality by consumption patterns (Mokhlis, 2009b). An extended sample, including other age segments of consumers or consumers with personal incomes, might be relevant in order to demonstrate that CSI – five factors version is a valid measure of consumer decision-making styles.
REFERENCES


REZUMAT

Stilul decizional de consum variază de la o cultură la alta, așa cum numeroase studii pe această temă arată. Această lucrare își propune să identifice structura factorială a Consumer Style Inventory (Sproles & Kendall, 1986) pe un lot de tineri consumatori români, fiind prima încercare în această directie. Posibilele relații între aceste stiluri și factorii de personalitate au fost de asemenea investigate. Rezultatele susțin ipoteza unei analize extinse a stilului decizional de consum ca fiind influențate atât de factorii culturali cât și de cei personali.
EMOTIONAL INTELLIGENCE AND WORKPLACE AGGRESSION: A META-ANALYSIS

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Abstract
Aggression and violence are of increasing concern to employees and employers. However, these issues have received limited research attention in scientific literature. In this paper, we report the findings of a meta-analysis investigating the relationship between emotional intelligence (EI) and aggressive workplace behaviors by focusing on the personal differences among aggressive employees. The results supported the hypothesis that EI is negatively associated with counterproductive work behaviors. The limitations and implications are discussed in terms of psychometric issues, differentiated approach of emotional intelligence constructs and organizational context.

Cuvinte cheie: meta-analiză, inteligență emoțională, agresivitate, contraproductiv.
Keywords: meta-analysis, emotional intelligence, aggression, counterproductive.

1. INTRODUCTION

Organizations are a complex environment in terms of human relationships, as well as an open environment, which can be influenced in a direct or indirect way by many factors (economic, social, personal, etc.). Also, the employees’ activity can be efficient as far as we know these factors and the way they can influence the organizational culture and the organizational environment. In order to achieve high performance, the climate should be a healthy and positive one. No organization wants to create a toxic climate. When the organizational climate develops on its own, without taking into account human relationships, and employees are not held accountable for the lack of manners and respect, the climate in any organization can be changed dramatically. Symptoms include lack of productivity, low morale, and increased absenteeism. Relations between employees represent a risk factor for aggressive behavior (Cameron et al., 1987).

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Depending on the situational and individual characteristics, the conflicts between employees can escalate, the effects reaching unmanageable levels. Employees’ reactions can be really different even if the situation is the same. This is where personality traits and emotional intelligence levels are highlighted (Patel, 2011). Each of the constructs of emotional intelligence, as presented by Goleman in 1995 (self-knowledge, self-regulation, self-motivation, empathy, social skills), can influence the behavior of employees involved in that conflict. Aggressive behavior in the workplace is associated with negative consequences for the individual as well as for the organization. Among the most studied consequences we would like to emphasize the ones related to health and attitude for the people exposed to aggressive behavior in the workplace (Schatt & Kelloway, 2003). On the other hand, there are less studies which claim that aggression influences work behaviors leading to job performance. This lack of attention is striking when taking into account the central role of performance within organizational frameworks.

Statistics claim that a surprisingly number of employees were subjected to aggressive behavior (both from colleagues and people outside their organization), the most common form being verbal aggression (Parent-Thiron et al., 2007). Therefore, it is important for managers and organizations to understand the effects that aggressive behavior in the workplace has on performance and productivity.

2. WORKPLACE AGGRESSION AND EMOTIONAL INTELLIGENCE

One of the aims of this study is to get a clear view on the concept of workplace aggression. As the interest in this phenomenon has increased over latest years, its operationalization became more and more difficult. For example, some authors describe it as a process in which a person tries to physically harm a coworker (O’Leary-Kelly et al. 1996). Neuman and Baron (1998) define workplace aggression as any form of behavior directed by one or more people to harm others in that workplace in ways that motivate victims to avoid them. This kind of doing harm is intentional and includes psychological as well as physical injury. Efforts to harm others in the organizational context vary from subtle and hidden actions to active confrontations, destruction of property and direct physical aggression (Barling, 1996; Robinson & Bennett, 1995). Forms of aggression in the workplace include: intimidation, rudeness, organizational behavior related to retaliation, emotional abuse and tyranny (Dupré & Barling, 2006).

In this study we will use the definition adopted by the European Commission (2002) for a better description of workplace aggressive behaviors: "incidents where persons are abused, threatened or assaulted in circumstances related to their work, involving an explicit or implicit challenge to their safety, wellbeing or health". These are the kinds of behaviors that are the subject of our analysis. We will focus on aggression manifested (under the preserve of different behaviors) by employees in the workplace in relation to their colleagues (either the same hierarchical level or bosses or subordinates). We will address individual factors that play an important
role in the manifestation of aggression and we will focus on those related to emotional intelligence.

With regard to emotional intelligence, we approached it from the perspective of the multiple constructs it includes (such as: empathy, social skills, self-regulation, etc.). There are studies that deal with it globally, as well as studies that treat each construct individually. One of the secondary objectives of our research is to highlight those components that have a higher association with aggressive behaviors in the organizational environment. One benefit of such an approach is to use these findings in future research where these constructs will be molded in order to mitigate conflicts between employees.

3. OBJECTIVES

Our main objective is to investigate the association between emotional intelligence and aggression in the workplace by synthesizing the results of existing studies that use rigorous methodological designs and a series of relevant standardized tools. Another objective is to identify those skills that facilitate aggressive behavior and those that reduce its level, by underlying the direction of the association between them as well as the effect size variations. Based on this information, our scientific approach can go further by capturing in a methodological design the associations between different components of emotional intelligence and different aggressive behaviors in the organizational context. In addition to the objectives mentioned above, we would like explore the instruments that ensure greater effect size, as well as to identify variables that may play a moderator role.

Statistically, the procedure of meta-analysis consists in combining results from different studies that address a set of common assumptions. In its simplest form it is identified with the effect size, so that the weighted average could be the result of meta-analysis. Its results are a better estimate of the actual effect than those resulting from single studies. While classical studies focus on the significance of the results, the meta-analysis aims to determine the direction and magnitude of the effect. Modern statistical meta-analysis does more than combine the effect size for a number of studies. It can test if the results of the studies show a greater variation than expected due to participants sampling differences. Meta-analysis changes focus from simple to multiple studies. It emphasizes the practical importance of the effect size instead of statistical significance, as it usually happens in the individual studies.

4. METHOD

4.1. Data and sample

The design of this research focuses on two variables: emotional intelligence (or constructs of emotional intelligence) and aggression (in various forms of behavioral manifestations)
Several inclusion criteria were used for a better selections of relevant studies. First of all, the sample consists of employees (regardless of age, level of education, socioeconomic status), the writing languages of the studies are English and Romanian. The publication type refers to articles from scientific journals and PhD thesis, due to their eligibility.

4.2. Databases and keywords


Keywords for Romanian language: “inteligență emoțională”, “agresivitate”, “comportament deviant”, “autoreglare”, “abilități sociale”, “organizație”, “empatie”. Appropriate filters were used for each database in order to locate potentially controlled clinical studies. Search terms were modified to meet the requirements of each database regarding differences in fields and filters for studies identification. We used “*” in order to allow the search for all words containing the letters preceding the asterisk.

Type of studies – correlation studies

Number of studies: 200,996 studies were identified containing at least one on the research variables. The number of studies containing the three elements in the title and the abstract (emotional intelligence / emotional intelligence constructs + aggression / forms of aggression + words describing the sample as consisting of employees), however, was much smaller – 1,248. From this multitude of studies, only some were retained: those containing a correlation model in the design with sample consisting of employees and an association between the two variables: emotional intelligence (or one of its components) and aggression (or one of its forms). This way, the number of filtered studies was reduced to 33 but, since not all of them had a research design that met the inclusion criteria, only 13 studies were kept (out of which 13 have employees as sample and two have students). We kept those two studies as well just for descriptive purpose, in order to observe the descriptive characteristics of statistical indicators. Also, we noted a distinction – 11 studies showed significant correlations between the level of emotional intelligence and aggression while in four of the studies this correlation is statistically insignificant. We kept these articles (out of which two are those with students in the samples) in order to analyze the possible causes that led to such a result, which helped us in setting future directions of research.

5. RESULTS

Our first objective addresses the association between emotional intelligence and aggression in the workplace. Below, a table with data extracted from the 11
studies is presented. Table 1 shows data regarding the authors' names, variable names and their instrumentation, sample size, the internal validity, correlation coefficients and significance level.

<table>
<thead>
<tr>
<th>Author/ Year</th>
<th>Variables</th>
<th>N</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Austin (2006)</td>
<td>EI Machiavelism</td>
<td>199</td>
<td>-0.33</td>
<td>0.010</td>
</tr>
<tr>
<td>2. Austin (2006)</td>
<td>EI Machiavelism</td>
<td>199</td>
<td>-0.22</td>
<td>0.010</td>
</tr>
<tr>
<td>3. Berry (2007)</td>
<td>Emotional Stability Interpersonal Deviance</td>
<td>2,318</td>
<td>-0.2</td>
<td>0.050</td>
</tr>
<tr>
<td>4. Bracket (2002)</td>
<td>EI Social Deviance</td>
<td>207</td>
<td>-0.27</td>
<td>0.001</td>
</tr>
<tr>
<td>5. Bracket (2002)</td>
<td>EI Social Deviance</td>
<td>207</td>
<td>-0.21</td>
<td>0.010</td>
</tr>
<tr>
<td>6. Cote (2011)</td>
<td>Emotional Regulation Machiavelism</td>
<td>252</td>
<td>-0.28</td>
<td>0.001</td>
</tr>
<tr>
<td>7. Douglas (2001)</td>
<td>Self-Control Incidence of a.b.</td>
<td>151</td>
<td>-0.57</td>
<td>0.050</td>
</tr>
<tr>
<td>8. Jensen (2011)</td>
<td>Emotional Stability CWB-I</td>
<td>517</td>
<td>-0.21</td>
<td>0.050</td>
</tr>
<tr>
<td>9. Jung (2012)</td>
<td>EI CWB</td>
<td>319</td>
<td>-0.55</td>
<td>0.010</td>
</tr>
<tr>
<td>10. Kisamore (2010)</td>
<td>EI CWB-C2</td>
<td>213</td>
<td>-0.17</td>
<td>0.050</td>
</tr>
<tr>
<td>11. Restubog (2010)</td>
<td>Emotional Regulation Deviant Behavior</td>
<td>279</td>
<td>-0.32</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Note: EI = Emotional Intelligence; N = sample size; r = correlation coefficient; p = significance level

In order to move on to the statistical procedure specific to a meta-analysis, we used the software created by a team of researchers from the U.S. and UK led by Michael Borenstein - director of Biostat, specialized in software that aim at facilitating the process of meta-analysis. The program we used is called CMA (Comprehensive Meta Analysis) and it facilitates automatic calculation of relevant statistical parameters. The section for processing the intensity of correlations was used.

As types of meta-analysis, both fixed and random models were used. For the fixed model, the researcher assumes there is a theoretical effect equal for all studies and the differences that occur are caused by errors in sampling (small variations from one study to another, inherent in working with samples that limited the number of subjects drawn from a population). It is possible, however, that the effect is not consistent across the chosen population leading to presuming the existence of differences in sampling. This model assumes that the effects are distributed around an average while depending also on the variation between studies (Hunter & Schmidt, 1990). The value of the correlation coefficient for the fixed model is -0.259 (confidence interval between 0.233 - 0.285) while for the random model the value is -0.307 (0.224 – 0.385).
Table 2: Effect size (fixed vs random model)

<table>
<thead>
<tr>
<th>Model</th>
<th>Study name</th>
<th>Correlation</th>
<th>Lower limit</th>
<th>Upper limit</th>
<th>Z-Value</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Austin (2006)</td>
<td>-0.330</td>
<td>-0.440</td>
<td>-0.200</td>
<td>-4.800</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Austin (2006)</td>
<td>-0.220</td>
<td>-0.348</td>
<td>-0.083</td>
<td>-3.131</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>Berry (2007)</td>
<td>-0.200</td>
<td>-0.239</td>
<td>-0.161</td>
<td>-9.754</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Bracket (2002)</td>
<td>-0.270</td>
<td>-0.392</td>
<td>-0.339</td>
<td>-3.954</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Bracket (2002)</td>
<td>-0.210</td>
<td>-0.337</td>
<td>-0.076</td>
<td>-3.045</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>Cote (2011)</td>
<td>-0.280</td>
<td>-0.390</td>
<td>-0.162</td>
<td>-4.540</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Douglas (2001)</td>
<td>-0.570</td>
<td>-0.669</td>
<td>-0.451</td>
<td>-7.877</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Jensen (2011)</td>
<td>-0.201</td>
<td>-0.291</td>
<td>-0.126</td>
<td>-4.833</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Jung (2012)</td>
<td>-0.550</td>
<td>-0.622</td>
<td>-0.468</td>
<td>-10.993</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Kisamore (2010)</td>
<td>-0.170</td>
<td>-0.298</td>
<td>-0.036</td>
<td>-2.488</td>
<td>0.013</td>
</tr>
<tr>
<td></td>
<td>Restubog (2010)</td>
<td>-0.320</td>
<td>-0.422</td>
<td>-0.210</td>
<td>-5.510</td>
<td>0.000</td>
</tr>
<tr>
<td>Fixed</td>
<td></td>
<td>-0.259</td>
<td>-0.285</td>
<td>-0.233</td>
<td>-18.427</td>
<td>0.000</td>
</tr>
<tr>
<td>Random</td>
<td></td>
<td>-0.307</td>
<td>-0.385</td>
<td>-0.224</td>
<td>-6.986</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The dispersion caused by the differences between studies (Q) has a value of 76.756. Together with the associated significance level (0.000) it leads us to conclude that there is a high level of heterogeneity between studies. The value of the standard error is 0.013, which means that there is a weak variation of the correlation values so we can trust its representativeness. This follows from the descriptive data as well, two of the studies being out of order (Douglas and Jung) reporting level of correlation higher than 0.5. If we eliminate these studies from the calculation, the result is as follows: Q = 9,221 and I² = 13,246. It is clear in this situation that the two studies bring heterogeneity.

Table 4: heterogenity

<table>
<thead>
<tr>
<th>Model</th>
<th>No. of studies</th>
<th>Heterogenity</th>
<th>Tau-squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Q-val</td>
<td>df (Q)</td>
</tr>
<tr>
<td>Fixed</td>
<td>11</td>
<td>76.756</td>
<td>10</td>
</tr>
<tr>
<td>Random</td>
<td>11</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Furthermore, we want to emphasize those instruments which have greater internal validity. The main instruments for the measure of emotional intelligence used in this study are: MSCEIT, EQ-i and SREIT. Of these three, a high internal consistency belongs to MSCEIT (α Cronbach = 0.91). The Mayer-Salovey Caruso Emotional Intelligence Test is one of the most popular measure for EI.

The test covers the four content areas of emotional intelligence: recognition of emotion, emotion integration into thought and thinking processes, emotional complexity and emotional regulation or emotion management (Mayer et al., 2000; Roberts et al., 2006). MSCEIT has demonstrated good reliability and reasonable
construct validity in different settings (Brackett & Mayer, 2003). The test has 141 items divided into eight subgroups (two for each of the content areas). Responses are given on a Likert scale or on a semantic differential scale to assess levels of accuracy for each answer given. The main criticism against the current version of MSCEIT focuses on two points. The first deals with the validity criterion of fairness. The second talks about the MSCEIT in intercultural context - some evidence suggests that the measure is vulnerable to cross-cultural variation (Tett et al., 2005).

Regarding the measures for aggression, greater internal consistency was demonstrated by the Fox and Spector scale which studies counterproductive behaviors at work ($\alpha$ Crombach = 0,94) (Jung, 2012) and the instrument called CWB-C used in the Kisamore’s study ($\alpha$ Crombach = 0,86). Both instruments measure the same type of behavior. Counterproductive behaviors include abusive behavior towards others, physical and verbal aggression, making improper work intentionally sabotage, theft, absenteeism, delays, etc. These behaviors are a set of distinct acts that have common characteristics: they are intentional (not accidental) and harm or intend to harm the organization and/or their stakeholders - customers, colleagues and supervisors (Spector and Fox, 2005).

As mentioned above, there were four studies showing no significant correlations between the research variables. An explanation of these results, brought by the researchers, comes from measurement errors and sampling. Equally important is the incremental validity. Therefore, a separate study of groups of men and women is suggested. The results show that women have a higher level of emotional intelligence while men a lower one. At the same time, men have a higher level of aggression than women. Another explanation for these results is given by the way in which instruments of measure of emotional intelligence are built. There are instruments that addresses intelligence as a mixed construct consisting of unrelated attributes. The authors suggest that they can be addressed individually.

6. CONCLUSIONS AND FUTURE DIRECTIONS

Based on the reviewed studies, we can assume that negative emotions as well as low levels of self-control experienced by employees can occur when there is a low level of emotional intelligence. Employees with low levels of emotional intelligence may have a high level of counterproductive work behavior (CWB). Although the reported results were statistically significant, the correlation was not high. This raises the need to address the association between emotional intelligence and aggression as a complex phenomenon, taking into account the intermediate variables related to context, organization, personality traits. On the other hand, the approach of separated samples of men and women is justified due to the fact that differences have been reported between the two groups. Another suggestion for future analysis would be to highlight the differences between the various hierarchical levels (subordinates vs. managers). There are studies which state that
with age, emotional intelligence increases (Martin, 2013). This aspect is worth investigating. There is one more suggestion to make - to treat each scale of the emotional intelligence instruments separately, not as a general construct.

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REZUMAT

Agresivitatea și violența reprezintă o preocupare crescătoare pentru angajați și angajatori. Chiar și în acest context, acestea reprezintă o problemă care a atras puțină atenție în literatura de specialitate. În această lucrare, raportăm rezultatele obținute ca urmare a unei meta-analize prin intermediul căreia am investigat relația dintre inteligenta emoțională (EI) și comportamente agresive la locul de muncă, concentrându-ne pe diferențele personale existente între angajații agresivi. Rezultatele au susținut ipoteza că EI este negativ asociată cu comportamente contraproducțive. Limitările și implicațiile cercetărilor sunt discutate în termeni de probleme psihometrice, abordare diferențiată a constructelor inteligenței emoționale și a contextului organizațional.
TESTING CREATIVITY: A ROAD WITH MANY BIFURCATIONS

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Abstract
Creativity is considered a very resourceful concept, and if we look at it from a practical approach, then the concept become even more important. Testing creativity brings in the topic of defining creativity. There are at least four perspectives involved in creativity understanding: the process, the person, the product and the pressure from outside. Each of these perspectives promotes their own methods in testing creativity. They raise awareness about what creativity means, but also generate debates and unsatisfactory knowledge. In the following paper the four perspectives will be analyzed through their contribution to testing creativity. New suggestions in using the specialized instruments are also discussed. The most recent findings promote the idea of mixt techniques in order to find relevant information about the target concept. Correspondingly, mixt sources are recommended such as self-evaluation, hetero-evaluation and objectives measures. Walking the road of creativity testing leads toward the possibility to identify creative persons or people with creative potential, to be able to understand creativity and to plan programs that enhance it, to find the contribution of different abilities to creativity and to predict behavior related with creativity. The field is fertile, nevertheless intriguing and controversial.

Cuvinte cheie: creativitate, psihodiagnostic, testare, originalitate, utilitate

Keywords: creativity, psychological assessment, testing, originality, usefulness

1. INTRODUCTION

The interest connected with creativity has generated a large number of initiatives that aimed to assess creativity. The specialists have targeted to validate methods in order to identify creative people or creative products and by doing so, they can contribute to the sustainability of creativity into society. The purpose of testing creativity is not an easy approach, and the need to take into consideration multiple trends is necessary. Some of the most recognized debates concerning creativity start with its definition, goes to dichotomy Big C – little c, tackle the dispute about generality-specificity of creativity (Lubart, Guignard, 2004) and ends

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to the different theories that explain creativity as process, person, product or pressure from the environment (Runco, 2004, 2007a, 2007b).

In the definition’s challenge, some consents is reached by accepting that creativity means originality and value/usefulness, meaning that in order to talk about creativity both requirements have to be satisfied. Even so, there is still disputable how much originality is good: very original, completely new is difficult to understand, or can be just bizarre, and the degree of usefulness is very dependent by the social context in which it is evaluated (Lubart, & Guignard, 2004; Runco, & Jaeger, 2012). Other components of the definitions emphasize the importance of the process involved (such as Torrance definition 1966, apud Kim, 2006) or the interaction among ability, process, product and environment (Plucker, & Beghetto, 2004).

Other considerations must be given to the difference between Big C – little c when testing is targeted. Big C means eminent creativity; it requires specialization, effort, dedication and planning and is validated by a group of experts also largely recognized. The impact of eminent creativity is on societal level but the occurrence of such a high creativity is rare and is dependent on the historical, economic and cultural context. Little c, on the other hand means everyday creativity, it is displayed at individual level signifying the ability to solve everyday challenges through novel ways. The creative potential is activated when a person is able to transform the ordinary, to identify problems and to solve them in a unique and appropriate manner. Sometimes little c manifests spontaneously, other time need preparation and commitment (Richards, 2007).

Regarding the controversial generality-specificity dimension, Pucker and Beghetto (2004) consider that creativity needs a certain level of specialization and experience, but too much of it can produce rigidity and overlook fresh perspectives. In the same time, too less of it generates superficiality and inconsistency. The balanced position values both expertize and dedication but leaves space for time and investments in other domains that differ from the professional one. Accordingly, a person should be exposed to different contexts that encourage flexibility and adaptability but also should be supported to pursue his/her own interests and passions.

Finally, the four P’s that encompass creativity are represented by:

- Process, meaning a sequence of states, actions and specific operations
- Person, cognitive ability more or less wide (and more or less in interaction with other cognitive abilities)
- Product, a result that is new and valuable/useful
- Pressure, external factors that influence creativity (environment, economic resources, and cultural values).

In order to offer a more comprehensive procedure to the testing system, the information will be structure according to these four P’s, without neglecting the need of concluding remarks. A unified approach is presented after the separate facets are discussed mirrored in Batey (2012) model. His model points toward answering the what, how and where questions about testing creativity.
2. TESTING THE PROCESS OF CREATIVITY

In the center of this facet lays the very popular divergent thinking tests. Their assignment is to offer as many answers/solutions a person can give to a question or stimulus. Guilford (1967) was the one who imposed these techniques as means to test creativity based on his theory of intellect’s structure. Guilford defined divergent thinking as the ability to manipulate ideas in a flexible, fluent, original and elaborate manner, consequently divergent thinking tests allow to measure four distinct scores:

- fluidity: the number of answers,
- flexibility: the number of different categories,
- originality: the degree of novelty in the answer,
- elaboration: the degree of complexity of the answer.

Starting from Guilford’s theory, Torrance has developed a series of tasks that later became one of the most used test for creativity assessment - Torrance tests for creative thinking (TTCT). Their primary objective was to identify the strengths of the subject being tested in order to increase them and to adjust the teaching methods so that creative expressions are encouraged (Kim, 2007). TTCT are hybrid tasks, qualitative and quantitative, based on collecting open answers from the subject being tested. There are figural and verbal items, both with time limits, allowing partial and global scores. Some of the controversy generated by TTCT are due to the high correlation between fluidity and flexibility scores (that lead to the renouncing of flexibility scores for figural tasks) and low correlation between verbal and figural scores, which means that not only divergent thinking is involved in the tasks but also some more specific component dependent on the domain (Clapham, 2011; Kim, 2006, 2007; Plucker, & Makel, 2010). The validation studies indicate two explicative models for TTCT scores:

- The first one shows a uni-factorial component, with a global score for creativity
- The second one is bi-factorial (Kirton, 1989, apud Kim, 2007) with two components: innovative creativity measured by fluidity, originality and resistance to closure (persons with high scores are those who change paradigms) and adaptive creativity measured by elaboration, sematic abstractizations and creative characteristics (persons with high scores are those who extend the existing paradigms).

Special attention should be given to instructions and the environment conditions during testing, the results being sensitive to such factors (e.g. type of materials being at hand, tasks being presented as a playful activity or as a competitive one, atmosphere during testing and so on). The merits of the battery are considerable (Kim, 2006, 2007): there are no gender, race, economic, cultural or linguistic differences. The time required to complete the battery is cost efficient. TTCT scores are better predictors then IQ scored for creative achievements and for identifying gifted children. Longitudinal studies (Torrance, 2003; Runco, Miller,
Acar, & Cramond, 2010) showed moderate and high correlations (.39 to .63) between TTCT scores and other indicators of creative achievement (such as public recognized creative achievements).

Besides TTCT other known divergent thinking tests are Wallach & Kogan test (1965, apud Starko, 2005) and Remote Associates Test – RAT (Mednick, 1962, apud Sternberg, & O’Hara, 2005).

Focusing on process assessment through divergent thinking or remote association these tests are one of the first options when creativity is evaluated. The results of these tests have a good predictive validity, especially for shorter period of time. More authors (Clapham, 2011; Starko, 2005) recommended replacing them with tasks that require identifying problems not only solving problems, or tasks that involve the ability to recognize the potential of an idea. Also, another suggestion is to adapt assignments in a more ecological fashion, close to daily living context.

3. TESTING CREATIVE PERSON

In this category of methods are included self-evaluation tests (such as personality questionnaires, interests and attitude scales, biographical questionnaires, behavioral scales) and hetero-evaluation tests (usually answered by relatives, teachers, mentors, peers, experts) that assess traits or behavior related with creativity.

Personality questionnaires represent a substantial type of instruments used to study creativity. There are some independent scales and some scales that are derived from bigger inventories, like C scale derived from MMPI-2 (Minnesota Multiphasic Personality Inventory). The creative individuals detected by this scale are sociable persons, able to engage in interpersonal relations, but usually associate substance abuse behavior (mostly alcohol or anti-depressive or anxiolytic drugs), high scores in hypomania and small but significant correlation with psychopathy scores due to their rebellious nature and tendency to disobey rules (Nassif, & Quevillon, 2008).

Feist and Barron (2003) showed that creative persons have high score for openness and small scores for conscientiousness (from Big five factors model, measured by NEO-PI-R), and high score for self-acceptance, dominance, impulsivity, ambition, capacity for status from CPI (California Psychological Inventory). Tolerance, achievement via independence, flexibility, psychological - mindedness are also predictive for creativity.

Some useful independent scale is The Creative person profile (Martinsen, 2011) that covers cognitive and affective-motivational factors. All components of the scale are validated through their good correlations with personality traits specific to NEO-PI-R or CPI, disclosing that artists are open to experience, playful, avoid routines, elude highly social stimulation, disobey conventions, are emotional instable, goals oriented, have desire to succeed but are less interested in others opinion, and more critical and stubborn than normal population.
Close by personality questionnaires stands interests and attitude inventories that reveal that creative persons have multiple interests, hobbies, are involved in activities that sometimes looks opposing, work simultaneous at more than one project, are curious, adventurous without being driven by the need to finish tasks but by the need to pursue the idea that appeals them.

Another method that places its interest on the person is the case study method (Wallace, & Gruber, 1989; Gruber, & Wallace, 2005). The authors mentioned above rely on biographical data, but go beyond that by the facts that:

- They study one person at a time, but that person is exceptional (highly creative).
- The focus is on daily activities and his/her professional work considered in interaction and as an evolving system.
- The purpose is to understand the creative person as a whole taking the course of life as an evolving change.
- The ultimate goal is to formulate a theory on creativity.

The case study method proposed by Wallace and Gruber (1989) use information from very diverse sources: the person herself, family, friends, peers, biographic and autobiographic documents, public documents, written testimonials. All information is used to identify first what is common in every person and is also true for highly creative ones, second what is specific only for creative persons, third what is unique for the precise case study and fourth the way in which all these perspectives combine for one individual.

Some short comings of this method are that is focused on Big C creativity and neglects little c. Inside method there can be limits related with the accuracy of information gathered especially when between time of event and time of study passed a long period. Also the lack or the parsimonious data on specific time of life or specific activities can produce deficiency in understanding.

4. TESTING THE PRODUCT

Sternberg (2007, 2012) campaigns for the idea of using innovation to test innovation, meaning that it takes creativity to test creativity. In his opinion to assess creativity means to search to understand how a person creates, discovers, invents, imagines, takes assumptions and makes predictions. He had verified the validity of innovative techniques that assess the products during two major projects: Aurora Project and Kaleidoscope Project. Mainly, the assessment tasks asked the respondents to create stories, drawings, pictures, videos, or to create advertising clips for specific items. In order to accomplish the tasks both analytical and synthesis capacities of a persons were engage along with practical and intellectual ones. The products were assessed by six different evaluators, using a five points scale and were judged for originality, complexity, emotion involvement, humor, cleverness and task’s accomplishment. The inter-scorer reliability was
close to a value of .90 which supports the capability of such techniques to measure creativity.

Other procedures that test the product were introduce by Teresa Amabile (apud Starko, 2005) naming here Consensual Assessment Technique – CAT. This technique uses experts to evaluate products by three criteria: how creative is the product, the quality of the technical abilities involved and the quality of the product as a whole. If the consensus among the experts reached 80 %, the product was considered creative. The main principle of the method is that there are no pre-established rules or definition to judge creativity of the product, only the verdict of the experts. Renzulli and Reis (1997, apud Starko, 2005) are more specific when they institute the criteria for their instrument - *Student Product Assessment Form* asking judges to assess its originality, the degree of accomplishment the goal, the quality over the expected level by the age of the respondent, the attention for details/ the effort invested and the degree of task’s accomplishment.

Some precaution should be given when such an approach is used in testing creativity:

- The ability to produce creative results depends on the age of the respondents (meaning that each time, criteria have to be adjusted from an adult population to children population).
- The results depend on the tasks (e.g. performance differs from verbal to figural or kinesthetic tasks).
- The subjectivity of the judges must be controlled as much as possible.
- Assessment can diminish the degree of creativity being known that external evaluation can act as an inhibitor for creativity.

Apart of these provisions, product evaluation is being more and more used in educational context, in different stages of educational process such as for the final tests, or interim tests or even for entering exams.

5. TESTING THE PRESSURE

This kind of approach is the most recent one in creativity testing. When the focus is on external pressure, actually the emphasis is on:

- Available resources
- The presence or the absence of interaction or collaboration
- The degree of external control posed on the respondent
- Personal involvement perceived by the respondent
- Working skills and abilities

Friedrich, Sternmark and Mumford (2011) confirm that such instruments are used mostly in organizations to check the potential for creativity of the working climate or for a team in the organization. Examples are: *Assessing Climate for Creativity, Creative Climate Questionnaire, and Team Climate Inventory*. One important perspective brought about by pressure’ testing is the influence of reinforcement upon creativity: when reinforcement is appropriate and somehow
unexpected it has positive outcomes; when is conditioned by the results and promote intra-team competition it has negative effects (Starko, 2005).

6. FINAL ARGUMENTS

The four perspectives presented above have their own focus, which brings benefits in understanding creativity but has also constrains. For clarity reason each perspective was treated distinctly, but recent findings claims for a more cohesive model. Batey’s paradigm (2012) shortly encountered in the introduction chapter offers a more integrative vision on creativity testing. His model puts forward three axes:

- The first axe is represented by the level of the respondents (who is tested) and has three categories: individual (when one person is tested), group (when a group or a team is being tested), organization (when whole organization is being tested) and societal (when a large number of people, members of a culture/ or a nation are being tested).
- The second axe is represented by the perspective of the assessment and can be: the process, the person, the product or the pressure (what is tested).
- The third axe is represented by the methods of the testing (how is tested) with three categories: self-evaluation, hetero-evaluation and objective evaluation.

Even if the axes are separate presented, they interact with one another, and give the possibility to select or design assessment methods depending on the need.

Table 1 presents few examples of a multiple method using referential axes form Batey’s concept.

<table>
<thead>
<tr>
<th>Level of respondent (who is tested)</th>
<th>Assessment perspective (what is tested)</th>
<th>Methods used (how is tested)</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>Process</td>
<td>Self-evaluation</td>
<td>The degree a person see him/herself able to combine ideas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hetero-evaluation</td>
<td>Grade offered by experts for ideas combination</td>
</tr>
<tr>
<td></td>
<td>Person</td>
<td>客观</td>
<td>Time spent to identify a solution</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Self-evaluation</td>
<td>The degree a person see him/herself as open to unknown</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hetero-evaluation</td>
<td>The degree a third perceives the person as open to ideas</td>
</tr>
<tr>
<td></td>
<td>Group</td>
<td>Objective</td>
<td>How many new experiences a person undergo</td>
</tr>
<tr>
<td></td>
<td>Product</td>
<td>Self-evaluation</td>
<td>Group assessment of their own product</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hetero-evaluation</td>
<td>Experts assessment of group product</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Objective</td>
<td>Public recognition of a group product</td>
</tr>
</tbody>
</table>

Similarly, for all the other axes someone can identify methods to test creativity. What is truly important is to become aware of the limitation of each method and to deal with that in order to obtain the most comprehensive evaluation.
function of the goals of the testing. Using a multiple method is necessary to read each result by its specificity and not to try to compute them by a common factor.

Today literature recognize that some techniques are more popular than other, some are new and still sporadic used, but essential is to keep searching to integrate knowledge obtained by testing in order to adjust theory and to promote creativity.

REFERENCES


Creativitatea este un concept foarte generos, iar dacă privim conceptul din perspectivă practică, atunci importanța acestuia este și mai mare. Pentru a testa creativitatea, se pornește de la definirea acesteia, cunoscându-se faptul că sunt cel puțin patru perspective din care poate fi privită creativitatea: ca proces, ca persoană, ca produs și ca rezultat a interacțiunii cu mediul. Fiecare perspectivă promovează propriile modalități de testare, contribuind la înțelegerea creativității, dar producând și controverse. Cele mai recente rezultate promovează ideea unei abordări mixte, nu doar ca perpespectivă, dar și ca surse de culegere a datelor, ca de exemplu metode de auto-evaluare, hetero-evaluare și metode obiective.

Parcăgând traseul studierii creativității, se ating finalități precum: identificarea persoanelor creative și a celor cu potential creativ, înțelegerea modului în care funcționează creativitatea pentru a planifica programe de stimulare și evaluarea eficienței acestor programe, înțelegerea contribuției celorlalteprocese psihice la creativitate și formularea de predicții asupra comportamentelor creative. Domeniul testării creativității rămâne unul fertile, incitant, dar în același timp, controversat.

REZUMAT

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PSYCHOLOGICAL EVALUATION OF THE CHILDREN CAUGHT IN THE TRAP OF PARENTAL CONFLICT

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Abstract
The present paper presents the negative impact of the parents' conflict among their children, after a divorce. Numerous studies mention the negative effects of the parents' divorce on their children, both on a short term and a long term. The most affected are the children caught in relationships of alliance with one parent against the other. During expertise analysis conducted as part of custody lawsuits, the evaluator will be interested both in evaluating the direct relationship between the child and parents and also by evaluating the relational needs of the children and the representation they have formed related to their parents. While the interview emphasizes what the child can declare, the projective methods are destined to help the child express his more profound beliefs. We will describe three study cases which describe the role of projective methods in revealing the emotions experienced by children caught in parental conflict.

Cuvinte cheie: divorț, conflict parental, evaluare psihologică, metode proiective
Keywords: divorce, parental conflict, psychological evaluation, projective methods

1. INTRODUCTION

Many children react to their parents' divorce by experiencing painful emotions: sadness, confusion, fear of abandon, guilt, misunderstanding, anger, loyalty – related conflicts, concern, moodiness. Many of them also experience feelings of loss when one of the parents move from the family's home or when they spend time with one of the parents while the other is missing. The negative short-term consequences which follow divorce include lower school performance, poor psychological, social and emotional adaptation and a negative self-concept. Their physical health is also compromised, especially in the context of severe conflict (Amato, 2000; El-Sheikh, ME, Cummings M și al., 2008).

Most of the times, the parents' conflictual relationships are not resolved after the divorce, as the parental conflict is reliant by disputes related to visiting programs, settling the child's domicile, keeping natural child – parent relationships

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or paying the care pension. The conflict between the parents is associated to the cases of children with high levels of anxiety, depression, externalizing behavior and low levels of self-esteem and social and academic competences (Amato, 2000). After the divorce, the relationships between the parents and children may shape differently, as noticed in the following chart (Bunker Rohrbaugh, J. 2008).

2. TYPE OF RELATIONSHIP AND FAMILY DYNAMICS

<table>
<thead>
<tr>
<th>Positive relationship with both parents</th>
<th>The child wishes to spend time with both parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Healthier adaption</td>
<td>• Spends time with both parents</td>
</tr>
<tr>
<td>b) Most of separated children</td>
<td>• Close relationship with both parents</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Affinity towards one of the parents</th>
<th>The child feels closer to one of the parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Healthy adaption</td>
<td>Frequent contact with both parents</td>
</tr>
<tr>
<td>- Affinity may change in time</td>
<td>Better match with one of the parents due to</td>
</tr>
<tr>
<td>- Affinity is usually normal in any family, whether separated or not</td>
<td>temperament, age, gender, common interests or parental practices</td>
</tr>
<tr>
<td>- Lower inter-parental conflict</td>
<td>The child may express the preference of spending time with one of the parents</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alliance with one of the parents</th>
<th>The child prefers one of the parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Intense inter-personal conflict</td>
<td>• Ambivalence towards the non-preferred parent, expresses anger, sadness, love, critique</td>
</tr>
<tr>
<td>• Copilul poate să fie presat să fie de partea cuiva</td>
<td>• Resists the contact with the non-preferred parent but does not reject him or her</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Estrangement towards one of the parents</th>
<th>The child rejects one of the parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Medium inter-personal conflict</td>
<td>Intense fear reactions based on real experience, is not ambivalent. Usually tries to limit contact with that parent, more than avoiding any contact.</td>
</tr>
<tr>
<td>• Parental history of violence or abuse rejection by the parent or</td>
<td>Healthy response – keeping distance towards the abusive parent.</td>
</tr>
<tr>
<td>• Severe parental deficiency. Ex: rigidity and control, emotional abuse, psychological illness, substance abuse.</td>
<td>This is a response mostly met among children aged between 10 and 18 years old.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Alienation towards one of the parents</th>
<th>The child rejects and calumniates the one of the parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intense conflictual disputes regarding custody</td>
<td>Over-negative feelings and a distorted perception of the rejected parent, with no actual basis</td>
</tr>
<tr>
<td>2. The rejected parent is a competent parent, with no abusive history</td>
<td>There are no feelings of ambivalence or guilt</td>
</tr>
<tr>
<td>3. The allied parent is angry and revenging in the relationship with the rejected parent, puts pressure on the child to take his or her part</td>
<td>Refuses any contact with the rejected parent</td>
</tr>
<tr>
<td></td>
<td>Pathological response, distortion or the previous positive relationships between the parent and child</td>
</tr>
</tbody>
</table>

The specific reaction of every child towards the traumatic event of his parent's divorce depends on both personal risk factors and available coping strategies. We
may notice that the major risk factor consists of maintaining the child in the parental conflict and creating alliances which one of the parents makes with the child against the other parent. These conclusions have been reached through numerous research studies which involved the participation of children from divorced families (Barnes G.G. 1999; Hetherington E.M and Stanley-Hargan M. 1999; Hetherington E.M and Kelly J. 2002). Being caught in the trap of parental conflict, some of the children naturally succeed in proving resilience, but others might become extremely vulnerable and might present major psychological issues. The high levels of hostility between the parents, before and after the separation take place in the detriment of the child's adaptation.

My practical experience in such cases, but also the numerous existing publications (Barnes G.G. 1999, Jen-De Chen, Rebecca A. George 2005; Pedro-Carroll, J. L. 2005) have shown that there are many factors which can reduce the negative effects of divorce and increase the child's resilience such as: the severity and duration of the parental conflict, the quality of the parental methods, the child – parent relationship and also the individual characteristics of the children (such as temperament, self-esteem, level of development, coping strategies).

The most evident protection factors are related to the relationship with the parents after the divorce but also to the individual characteristics of the children. Resilience is the key factor in forming the child's ability to adapt to the parent's divorce, and stimulating positive individual characteristics being essential in the area of resilience factors. The child's resilience can be developed and perfected by the protective and positive action of the adult and reducing the risk factors (Pedro-Carroll, J. L. 2005).

The expert who conducts psychological evaluations in the cases which intent to settle the custody should both look for risk factors which might make the children more susceptible towards which negative effects and resilience factors which might protect the children from negative effects of the divorce.

In each psychological evaluation in the divorce cases, it is important to carefully evaluate the intra-familiar relationships. The following aspects are followed:

- are the parents able to communicate and cooperate in order to take good care of the child?
- are the parents trapped in a campaign of making the child take their part in the parental dispute?
- are the parents involved in brainwashing/alienating behavior towards the child?

The evaluator will be interested both in evaluating the direct relationship between the child and the parents and by evaluating the relationship needs of the children and perceptions they have developed regarding their parents. While the interview emphasizes what the child can declare, the projective methods help the child express his deeper beliefs.
3. STUDY CASES

In the following section I will give several examples of responses resulted from applying projective methods which emphasize the feelings of children trapped in the parental conflict.

3.1. Case 1

Adina is a 9 years old girl and has a brother of 5. Their parents are currently in custody lawsuit. Adina was a witness of parental conflict and at the moment she is caught between two referential systems where each parent tries to suggest that he or she is the most suited to take care of her education and nurture. Adina experiences the tensions between the parents and has perceived their separation as threatening. The applied tests have shown that she owns reach psychological and imaginative potential, but because of her parent's separation, she shows strong feelings and abandon.

Adina is in an alliance-type of relationship with her mother and considers that the father is responsible for the divorce, therefore projecting on him the mother's complaints, and not her own. Although she would like to spend more time with her father, Adina chooses not to respond to his requests so she won't upset her mother.

The psychological evaluation process of Adina, Mooli Lahad's “Six-steps story” method was utilized among others, in order to identify the core theme and the available coping style.

Adina's story: “The hero is a girl from a village of a former carpenter. He could no longer work. The girl had a gift: she could darn beautifully, so she was working instead of her father. She would darn cloths. Her mission was to help her father. Nobody would help her. Aphrodite, the goddess of beauty, also knew how to darn really beautifully and when she saw Corina's work, the goddess saw it as a challenge. The goddess reached a golden cloud and told Corina: Since you have challenged me, I shall also challenge you to a kind of contest, of who would darn more beautifully. The goddess god angry that the girl darned more beautifully so she transformed her into a spider – this way she would darn for the rest of her life but nobody would admire her work no more.”

The analysis of this story, according to the Basic PH model has lead to the following coping style: Physiological (6), Cognitive (5), Imaginative (5), Social (2), Social – (3), Affect – (1), Belief (1). It results that she mostly uses action and physiological satisfaction as coping modalities (which are shown by compulsive eating), seconded by imagination and cognitive abilities. She experiences strong conflicts regarding social relationships and affection. If on a behavioral level she is in alliance with the mother against the father, the analysis of the story theme shows the need of helping the father and the threat she feels in the relationship with a competitive maternal figure.
The objectives which will be followed by the therapeutic program consist in empowering the capacity of expressing emotions, Ego empowering and escaping the alliance relationship with the mother against the father.

3.2. Case 2

Mihai is a 10 year old boy. His parents have been divorced for eight months. Mihai and his 14 year old sister have remained with their mother and live with her. A long period of conflict existed between the parents. The husband did not wish to separate, threatening even to commit suicide and provoking himself an accident when his wife took the decision to divorce. Mihai does visit his father but his sister does not wish to do so. When he returns from the visits to his father, Mihai rejects his mother and sister. He is angrier, sadder and refuses to speak to his mother about his father. He says he is his father's only friend, because that is what his father tells him. Mihai is impressed by the fact that his father lives by himself and doesn't want to see him upset. The boy does not accept his parent's divorce, thinks that the mother is responsible for it and is confused about which parent he should believe.

Although he states during the interview that it is better that the parents have split because there are no longer conflicts in the house, the responses he has given during applying the projective methods emphasize tension and emotional conflicts experienced by the child.

While taking the “Phrase completion test”, Mihai refers most often to the parent's divorce:

3. Before I fall asleep at night... I think of something nice, of Puf, my hamster who died, of my father, mother and sister.
4. I would truly like... that we would be a family again.
9. I got angry that... we are no longer a family.
10. My mother ... separated us from father.
12. My father... is my best friend.
19. I feel sad ... when others are sometimes sad.
20. I want ... to be part of a family again.
27. I am sorry that ... we are no longer a family.
29. I am happy ... when everybody else is happy.
35. I long for ... Puf, my hamster.
36. If my mother and father ... would be together, I would be happy.
40. Divorce ... should not have happened.

At the Family Drawing through symbols test, Mihai drew his father as “Achilles, very brave, strong and funny”. Mother is shown as “The goddess mother of thunders. Because she is brave, strong and soft”. His sister is “The witch of Good and Evil. She is both good and bad. As any other witch she is strong and brave”. Mihai drew himself last, as a “Pig – Achilles, because I eat a bit much, I am playful like a pig and brave like Achilles”.

It is important to mention that the father told Mihai after the accident that he is immortal like Achilles.
Usually, when it comes to his father, Mihai feels sad and upset. During one of the sessions he was asked to draw such emotions and put them in act. The result was conclusive. He drew sadness as a home without a door: “The house feels sad because nobody lives there any longer. It feels deserted. The family is gone”. Anger has been illustrated in the drawing as an angry man. Mihai said that the man is “like in a museum, has no life. Has no arms and legs. Does not speak to anybody. Has no family. Feels powerless. He cries and yells”.

The analysis of responses given by Mihai during the projective tasks shows that he cannot accept his parent’s divorce and sees his mother to be responsible for the fact that he is no longer part of a whole family. He has strong feelings of loyalty towards his father and incorporates his feelings. He is upset that he does not succeed in making his father less upset and feels responsible for this parent’s happiness.

The objectives of the therapeutic program consisted in obtaining better self-knowledge, enforcing the ego and differentiating himself from his father and escaping the strong loyalty towards him, accepting the divorce, making the child more responsible towards himself and less towards his family.

3.3. Case 3

Dan is a 7 years old boy. His parents have started the divorce procedure, as the father is away from the home. The father has manifested anger accesses which have been amplified lately. From his mother’s statements, the husband has several aggressiveness crises towards her, which the child has witnessed. She intended to separate from her husband several times, but has given up because he was threatening to take away the child. Before leaving the home, the father has threatened the child several times to leave him, while packing luggage in from of him.

After the departure, the father has returned home several times to visit his son, but each time he had aggressive reactions towards the mother, calling down on different aspects. The former scene consisted of a public scandal provoked by the father while being invited to an educational event of their son.

Dan has been highly disturbed by this incident. During the interview, he has spontaneously stated: “my father yelled at mother in from of the people and started pulling her clothes in anger”. He commented: “You can't make such scene in from of children, it's something between them”. “I did not interfere, why should I care about their garbage?”.

He has made a drawing which represents the father as an evil hand. “He would like the beating. I am drawing a moment when father made a strange scene. In fact, I think he wants to beat mother He really wants to. Father grabs her. Mother is smiling. She would laugh at what father would do with her. I had my brain filled with their anger”.

Dan is afraid of violent reactions of his father. He has directly declared this fact: “I am afraid of father. I am afraid of where he might take me. He is fine with
it...”; “he grabbed my hair and mother does not agree with this. Although many parents to the same’’.

Fear also appears indirectly, as shown by the responses to projective tasks.

For example, at the TEMAS test, he has chosen as unpleasant the charts representing aggressive scenes. They all has in common an aggressive man who is pointing his finger to a boy. He was asked “what does this remind you of?” and Dan replied: “Of my father”. Examples:

Chart 3: “I think he wanted to kick the boy out. (How does he feel?). He feels bad. The children are very scared. (What did the boy do?). He points with the finger. Generally you don't have to show it to your parents (?). The mother is glowering at the father (?). I think she will eventually kick him out and will return home, and if the father is still that angry, they will kick him out of the house. (Why didn't you like this chart?). The father was giving a bad example”.

Chart 23: “The father wants to throw the child in the water and the mother doesn't. (How is he like?). He's bad. (How did the child feel?). He felt bad”.

Chart 19: “This is a sad boy, I don't know why he is sad. The house where he was supposed to live took fire. He felt confused? Where was his mother? His father? Although next to him there were some super heroes, he felt insecure”.

At the Phrase completion test he answered: “Father...is a bad person”. “My biggest fear of mine … is of my father, because he always used to talk bad to mother and me”; “My greatest concern … is father, because he always does things that me and mother don't like”.

In another session he has drawn bad thoughts he and his father had. He stated that he was tired. He wished to get rid of these thoughts and take some rest.

Although in every evaluation session fears towards his father were expressed, Dan was still emotionally attached to his father. He missed him and wished very much that his father would change. He himself told me that he tried to change his father, but couldn't do so.

Chart 1 from the CAT test has shown the need of a positive relationship with the father figure: “Some children are eating. Then they play at the table, telling jokes. They are happy. Meanwhile, the roaster - father is thinking: What should I do while the children eat? I think I’ve got an idea: I should invent something (for them). The ending: the children finished their lunch and are surprised that each of them has a space ship and a flying car. They play with their father”.

Dan experiences feelings of abandon after his father departure and has the nostalgia of the complete family with harmonious relationships and no fighting. Related to the parent's divorce, the boy seems to be confused and ambivalent. On one hand he stated that “It is better that my parents divorced. I have more time to play with daddy. Before, he didn't play with me”. At the Phrase Completion test he responded: “If mom and dad … would get along, that would be the best day ever”, “The divorce... of mother and father is very bad both for me and them”.

It is noticed that Dan has an emotional and cognitive maturity which are precocious, specific to children raised in conflictual families, in which the child feels responsible for his parents.

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Dan has started individual therapy focused on increasing his self-esteem, developing better abilities of expressing emotions and overcoming the effects of traumatic scenes experienced in the family.

4. CONCLUSIONS

The metaphor of drawing, storytelling, acting, helps children express profound aspects related to the way each of them perceives the relationship with their parents. We may notice that the major concern are:
1. What is true and what is fake?
   This concern leads children to being insecure and hypervigilant.
2. Who is responsible for the conflict?
   Children feel responsible for the parental conflict and also helpless in stopping it.
3. I am alike to the bad parent or the good parent?
   In their fighting, parents tend to denigrate each other and give the child the feeling that one parent is the “bad” one while the other is the “good one, causing an experience of confusion of the child and strong conflicts related to loyalty and identity.

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THE ADAPTIVE FUNCTION OF SUPERSTITION FROM AN EVOLUTIONARY PSYCHOLOGY PERSPECTIVE

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Abstract
Evolutionary psychology is a relatively new approach to human development, which has lately brought valuable and insightful conclusions that contribute to explaining human nature. The present article proposes to explore the mentioned domain's point of view regarding the adaptive function which superstition might have played along the evolutionary time. The subject is of interest regarding the fact that superstition is still prevalent within our own culture but also most of other cultures, despite the fact that science's contribution to explaining the world we live in has reached levels high enough to offer most of the answers we might be looking for. Superstition seems to be a “shortcut” for rational and causal thinking, in which the superstitious subject prefers to fill in the information gaps regarding a given situation and chose the action to be taken under the bases of the highest perceived benefits or of the existing available information, whether we speak of inherent, evolutionary-based information, cultural views or the simple observation of coincidence.

Keywords: evolutionary psychology, superstition, adaptation

1. INTRODUCTION

Evolutionary psychology has lately become one of the most influential research approaches in psychology; according to Mitchell (1999), this area of study proposes to offer explanations of the functioning of all psychological processes by analyzing them from the perspective of their adaptive significance. Similar to evolutionary biology, evolutionary psychology studies these dimensions and their development through the evolutionary time. According to the same author, the evolutionary psychology methodology’s purpose is to explain the structure of given mental phenomena.

Superstition has been long known to be most of all related to the supernatural by our ancestors, who needed explanations for natural phenomena and they seemed to be highly preoccupied in avoiding offending spirits and gods, according to Robert Park (2009). The author considered that nowadays we are still functioning...
by the same coordinates as he finds present religious rituals highly similar to the ancient customs related to the supernatural: he states that they work only randomly, therefore no causality can be identified in such context. What actually happens is that certain conditions have initially been associated to a given outcome and we tend to re-create them over and over again (therefore, building superstitious rituals); usually, the most common intention of the superstition is too make us avoid unpleasant outcomes and, as Park (2009) mentions, kept under a harmless level, superstition might increase one's confidence.

2. DEFINITIONS AND PERSPECTIVES ON SUPERSTITION

At first sight, professional literature seems to approach superstition with reticence, as despite the impressive volume of information available to explain the world we live in, it has been shown that most people tend to almost ignore that kind of information. Authors such as Beck, Forstmeier (2007) raise the attention to the fact that superstition, along with religious beliefs are one of those elements that are present all over the planet, no matter the culture, but they emphasize the existence of examples which show no proof of benefits to be much higher than costs to support the preference of human individuals towards the discussed systems. Therefore, the challenge of evolutionary psychology regarding superstitions, representing such widely spread way of explaining the world, consists in proving that humans adapt through keeping superstitions. Such approach would clarify the reason they still function and are adopted by many individuals.

Zhang, Risen and Hosey (2013) suggest that superstitions might be sustained by lower costs relative to perceived benefits (namely subjective benefits evaluated strictly only by the individual's knowledge and not by considering external facts) and by each individual's prior beliefs related to the given subject or situation. This point of view, as suggested by Beck and Forstmeier (2007) might be supported by research conducted by using neuroimaging techniques: the authors quote studies which have shown that the human brain responds to the consistency or inconsistency of external information to our prior existing beliefs. In other words, when a human individual comes in contact with evidence of what he already believes, learning and memory brain areas are activated while the contact with information which disproves to one's beliefs activates areas responsible with error detection and conflict resolution.

Several models have been formulated aiming to explain the reason why people still appeal to superstition, whether as a way of understanding certain events or as an avoidance-type of behavior having the perceived role of protecting the individual of negative outcomes.

One of the most common of such models is based on the fact that human individuals, along with other organisms, learn from the observation of coincidence, method known as the associative learning (Beck, Forstmeier, 2007). The argument is that the set of rules which makes individuals chose superstition as a reference
system is actually similar to the mechanism of rejecting the null hypothesis in 
statistics, having in sight the best way of risk reduction and comparing the present 
facts to previous experience. Basically, this mechanism refers to risk management 
and it represents a choice between the costs of an assumed type I error 
(correspondent to superstition or believing in false statements) and the costs of an 
assumed type II error (correspondent to ignorance or rejecting true facts). The view 
according to which the present prevalence of superstition can be explained by 
analogy to the choice between two types of statistical errors is shared by several 
evolutionist authors (Foster, Kokko, 2009; Zhang, Jane, Hosey, 2013; Abbot and 
Sherratt, 2011). Among the mentioned authors we find the idea that this function of 
the superstition to choose between two types of error can be described as an 
adaptive function (therefore, inherent to evolution). Zhang at al (2013) add further 
information to this analogy and conclude that the main aspect behind such 
mechanism is a strategy consisting in switching between exploration and 
exploitation. An individual uses the available information (namely, exploits), 
action considered to maximize its fitness or he can chose to obtain more 
information regarding the truth behind the causal relationship and thereby, to 
explore. In order to clarify the causal relationship between an action and a certain 
outcome, an individual should evaluate whether it is more or less likely that the 
outcome occurs and what action (or non-action) he should apply (Abbott, Sherrat, 
2011) – this being the modality in which exploration takes place. Following a 
series of similar events or situation, the individual will no longer add any 
information and will tend to choose the action that might bring the highest reward, 
as subjectively perceived; this mechanism is applied to superstition as it will be 
preferred as long as the related costs will be low ( Beck & Forstmeier 2007; Foster 
& Kokko 2009 quoted by Abbott and Sherratt, 2011). The risk of choosing 
superstition seems to be lower compared to re-testing our hypothesis while 
confronting a give situation.

Prior to approaching the subject of superstition's evolutionist function, 
conceptual clarification should be mentioned.

According to Skinner's behavioral experiments conducted on pigeons (1948), 
organisms tend to act as if there would be a causal relationship between a given 
repeated behavior and a positive outcome, even if such causality does not exist; the 
author applied his conclusions in order to explain several types of human behavior 
such as gambling or influencing one's “luck” such as rituals applied prior to certain 
events or regularly. Such rituals persist to exist even though it has long been 
concluded that they have no significant influence on the expected outcomes, exept 
from randomness.

Foster and Kokko (2009) consider that Skinner's approach offered two new 
directions of analyzing superstition, valuable for it's research: firstly, he was the 
first to detect superstition among organisms different from humans (view 
consistent with the evolutionist perspective) and secondly, he approached the 
behavioral level of superstition (therefore, separating it once again from belief, 
namely the cognitive level of operating).
Based on Skinner's theory on superstition, Beck and Forstmeier (2007) shortly define superstition as a wrong and strange idea about external reality. According to Foster and Kokko (2009), superstition does not only refer to a set of beliefs or an individual's attempts of explaining external phenomena, namely to cognitive aspects but also to behaviors – the two dimensions sharing an incorrect attribution of cause and effect. They quote the Merriam – Webster dictionary according to which the superstition is whether a belief or action which can result from ignorance, fear, trust in magic or chance, or a false concept of the causal relationship.

Abbott and Sherratt (2011) consider that superstition should be defined in the context which involves the lack of rationality in believing the relationship between one action and a given outcome; in this situation, the subject relies on incomplete information regarding causality. The implication of this point of view is that superstition, on a behavioral level, has developed as an adaption to owing incomplete information. As a mechanism, superstition is developed by learning from the observation of coincidence (Beck and Forstmeier, 2007); the opposite and maybe ideal situation would be to gather as much information related to a situation or context before taking an action.

On the other hand, superstition should be distinguished from belief, which according to Beck and Forstmeier (2007) can be considered to be a non-tested hypothesis, a way of filling the gaps of not being able to observe underlying mechanisms directly; beliefs are congruent to the human need of finding functioning patterns to compose our view about the world and environment. The authors quote Fugelsang and Dunbar (2004) according to whom regularity, if observed, can be accepted as real under the conditions of finding a mechanism to sustain it.

Beliefs, therefore, according to the mentioned authors, have the role of detecting and explaining patterns and regularities; from an evolutionary point of view, it seems that human characteristics have been selected so they would identify patterns, fact proven by our tendency to do so even if such patterns are not there. Another important conceptual clarification offered by Beck and Fromstemeier suggests that superstition has evolved as a result of active searching for patterns (therefore operates under the basis of coincidence and observation) and that beliefs are actually the result of the natural need of explaining such patterns (being therefore linked to causal thinking). Superstition is, therefore, opposed to causality, which is the best way known so far to explain the events we are exposed to: every physical effect is caused by a physical reason (Park, 2008).

Beck and Forstmeier (2007) describe causal thinking as including the understanding of physical forces which affect objects through mechanical properties, having the main purpose of inferring predictions of future outcomes; it is mentioned that causal thinking has made us able to understand and influence our environment, respectively has given us evolutionary advantage.

Abbott and Sherratt (2011) proposed a model that inferred the idea that superstition is developed around causal relationships which even they do not exist
are only perceived by the subject), are plausible without the basis of experience; they further take into consideration the fact that such credibility can be based on instinctive or learned understanding regarding the environment but can also find its basis in the beliefs which belong to others. It seems that cultural influences play a strong part in managing actions in the cases where an individual does not come in contact with the opportunities to exploit the presence or lack of the causal relationship.

It is considered that superstition is found among organisms capable of associative learning. This type of learning is recognized through its effects of triggering behavioral changes which are related to relations between external events (de Hower, 2009); the effects are further incorporated in the memory as associations. Such learning incorporates the mechanisms of classical and operative conditioning. Therefore, it can be found not only among humans. The following mechanism derives from the organism facing the choice between detecting an existing pattern or establishing the existence of pattern where in reality, there is only randomness (therefore, taking action under the basis of superstition). In this case, superstition consists, for example, in avoiding harmless agents, whether foods, animals or interpreting several signals from nature as proof of approaching predators. Therefore, superstition might have played along generations the role of keeping the subjects at safe, namely choosing the situation of the lowest potential risk.

On a behavioral level, Abbott and Sherratt (2011) describe superstition as both actions and lack of actions which have the role of affecting the probability of a beneficial outcome in the conditions of lacking causal relations between the action and expected outcome, definition which according to the authors is also consistent to the one proposed by Skinner. Abbott and Sherrat (2011) conceptualize superstitious behavior as being composed by prior belief, chance events and using incomplete (available) information.

3. NATURAL SELECTION AND SUPERSTITION

There are three possible ways in which superstition can appear, according to Beck and Forstmeier (2007): it can be created by the individual himself (in a way similar to the one described in Skinner’s experiment), it can be a cultural inheritance (superstitions which seem to be part of common knowledge) or genetically inherited (this would be the case of being afraid of harmless animals, for example). They propose the hypothesis that natural selection has favored a learning strategy involving three main directions, namely searching for regularity patterns using indicators from the environment, attempting to make sense of a causal mechanism to explain such patterns, continuing, if necessary, by formulating new assumptions to explain the patterns and finally testing if these assumptions are available during following circumstances. The purpose of such strategy, as further suggested by the authors, would be to help distinguish between patterns and
randomness. They also consider, regarding causal thinking and the way we interpret events, that those human characteristics have been selected that enable us to process the environment in terms of causality and intentionality, considering the fact that the two have contributed to building valuable abilities.

Additionally, Foster and Kokko (2009) state that such naturally selected strategies might involve types of behaviors which correlate to superstition, namely consist in actions which do not follow an existing causal relationship. On the other hand, if taking such actions under based on the observation of previous registered benefits, the slight probability of reaching them might be enough to keep applying the superstitious behavior (Foster, Kokko, 2009).

As for the prevalence of superstition, Abbott and Sherratt (2011) state that the phenomenon is common in the situations when it comes along with high perceived benefits (given the context where the subject chooses superstition in the attempt of influencing a certain expected outcome). The authors expect that superstition would apply in the situation in which the subject has had several previous experiences in which he has witnessed beneficial effects.

4. CONCLUSIONS

Further investigations are recommended to be conducted regarding superstition and it's adaptive function within the human evolutionary time. As shown, it seems that superstition brings several benefits to the subject such as filling information gaps, rapid learning, allowing more rapid choices of actions. At a closer look, though, such benefits are only superficial ones, as experience has shown that evidence-based causal thinking and the efforts of obtaining information have contributed to our cognitive adjustment and environment management. We therefore propose several directions of further investigation such as the correlation between perceived benefits and risk taking as modulating factors of adaption. Perhaps superstition might have been useful for our ancestors who were not entirely exposed to opportunities of obtaining valuable and valid information regarding causality and mostly used observation of coincidence in order to give sense of the world. Another aspect that should be further investigated regarding the adaptive function of superstition is it's gregarious dimension. From this point of view, we refer to rituals which involve an entire community (such as religious gatherings, praying within a group, etc) and their possible adaptive functions: was the group gathering valuable for enforcing the community, keeping the members safe from potential external attacks or only increasing the level of perceived safety? Also, in short, what are the actual present situations in which superstition might offer real, but not perceived benefits? We suggest that the fact that most of the children tend to be superstitious and in time, as they grow, tend to develop their causal thinking may support the idea that nowadays superstition is only an evolutionary residue. From this point of view, we might take into consideration the situations in which superstitious thinking protects us from potential danger (eating harmful foods, staying away from harmful perceived stimuli), even if such danger
is not present or real. On the other hand, such false-positive protection affects us by limiting our experience and exploratory behavior which have contributed so far to significant discoveries, verified and enforced by causal thinking. Such questions are to be answered in order to support us in reaching a better, more complete understanding of a still widely present phenomenon such as superstition.

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BOOK REVIEW: “FUNDAMENTAL STATISTICS FOR BEHAVIORAL SCIENCES” BY DAVID C. HOWELL

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The volume proposed for this issue's review is the 2014 publication of the eight edition of “Fundamental Statistics for Behavioral Sciences” by David C. Howell (Wadsworth, University of Vermont).

For some of the psychology professionals, statistics can be regarded as a bit discouraging due to its complexity and sometimes large data which needs to be processed. On the other hand, psychology (along with its wide areas of application) is a fundamental scientific direction of understanding ourselves, adapting to everyday challenges whether personal or relational and also in maintaining optimal levels of well-being and finding ways of managing mental health. Such outcomes cannot be reached in the absence of a sound scientific method to test our observations, followed by formulating valuable, valid theories or functioning models which contribute to developing applied methods. This is why a psychology professional should not restrict his activity only to offering services to his clients which would limit his actions to being based on observation and previously acquired knowledge, but he should be concerned about contributing to the scientific improvement of psychological theories and methods. Statistics is not only defined by numbers and data operations but it also implies to the researcher involved in empowering his and his colleague’s knowledge, the development of a way of thinking and constructing valuable patterns of human behavioral functioning.

David Howell is professor emeritus of the University of Vermont, whose main interest and activity is centered on statistics and experimental methods. The professor has directed his efforts into approaching and explaining all major statistical operations and concepts which are necessary to be applied in order to test proposed hypothesis. From the definition of basic statistical concepts to ways of displaying data, measurement directions, concepts of probability, hypothesis testing by using specific statistical tests and methods, non-parametric tests and directions of conducting meta-analysis, Howell's volume includes all there is to know prior to conducting a viable research study. Each explaining chapter is followed by a set of exercises. The proposed exercises not only contribute to a better learning and understanding of the statistical concepts and methods, but they also have the valuable characteristic of being applied to specific behavioral and contextual situations. This way, the researcher who confronts this volume will find
it easy to find quick solutions to testing the proposed hypothesis and find a facilitated way of formulating new hypothesis and study designs with high predictive value regarding everyday life. The author mentions the fact that the examples available within the volume have been extracted from research studies, being therefore well documented. In order words, Howell's intention while writing this volume was to contribute to the reader's easy understanding of statistical results. Howell's view on statistics and research is not strictly a technical one but he is also concerned and aware of the importance of their applicability. He emphasizes the importance of developing skills of operating with data as a way of differentiating between professionals, not only of the behavioral sciences, but who conduct their activity in no matter field. On the other hand, he makes the statement that it is more important to focus on truly interpreting data and not falling into the trap of operating with numbers; the difference, according to Howell, consist in giving sense to the obtained results of a study and being able to apply them to a concrete context.

The author, as himself states within the volume, was dedicated to offering students (and not only) an easy-to-read guide to statistics, making sure to use an informal language and putting to specific context each practical example.

Additional material has been made available by the Howell online (www.uvm.edu/~dhowell/fundamentals8/index.html) in order to support easy access to information and help the reader clarify certain aspects of the described issues. The release of an eight edition of the volume is necessary, from Howell's point of view, as an update of inherent changes of the field, by adding and clarifying the latest additions in the field and removing information which has been proved to no longer be available. Also, a valuable addition brought to the present edition of the volume consists in one chapter dedicated to meta-analysis, method which involves looking into a number of several studies conducted regarding a given subject, method which, according to Hollow, is extremely valuable in studying health issues. Therefore, if one is interested in better understanding, for example, a treatment method, the most efficient way of reaching a complete image on that matter is to be able to compare the results of as many as possible studies regarding the given method. Finding the common results of multiple studies regarding one matter and also their differences makes the difference between true knowledge of the subject versus only having an idea about what it concerns. Hollow shows that using this method represents the basic request of developing evidence-based medicine.

David Hollow gives us, through his volume and extensive work of developing it, an opportunity of understanding statistics and it's applicative value, opportunity which is not only essential for students who are looking forward to behavior-related sciences careers (psychology, sociology, education, and so on) but also for specialists of the mentioned fields to intent to transpose their knowledge and professional experience into further investigations regarding updated theories, methods, treatments applied in the fields and contribution to scientific development of behavioral sciences.