„Alexandru Ioan Cuza" University of Iaşi
Faculty of Psychology and Educational Sciences

The structure and dynamics of the naïve theories regarding the relationship between creativity and personality

Abstract of the thesis

Scientific advisor

professor PhD. Ana Constantin

PhD Candidate,
Ana-Maria Hojbotă

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Motivation

The chosen topic is situation at the intersection between the area of study of implicit theories of the person and inter-trait inferences, regarding the naïve theories underlying the ways in which the creative ability and person are conceptualized. The potential scientific and applied value of the study could manifest itself in the following directions: identification and analysis of the frameworks that people use to represent, diagnose and predict creative behaviour; bringing together the classic approaches in the study of the creative individual and creativity with the socio-cognitive perspective on motivation and personality; studying implicit theories of abilities together with the theories or beliefs people have regarding their own abilities (creative self-efficacy and creative self-identity); developing a set of scale for the measurement of these theories, with robust psychometric qualities and predictive validity; creating a framework for the optimisation of the work of practitioners in educational or organizational settings through the elaboration of instruments to measure creativity and views on the ability.

Theoretical framework

Implicit theories of personality and creativity

Lay theories have been defined as the sets of beliefs, convictions and hypotheses regarding certain topics, held by people that hadn't been intimately acquainted with the scientific evidence and consensus within the corresponding field of study (after the definition provided by Furnham, 1988). These theories are located in the individual, unlike social representations, that are placed at the social level of analysis. Implicit, naive or lay, these labels are often treated interchangeably, indicating major overlapping, even if not perfect synonymy. „Implicit" implies that the theories are not only unscientific (as the „naive" or „lay" labels most obviously imply), but also the fact that they may operate in an automatic manner, can be tacit and function at an unconscious level. Regarding the implicitness/ explicitness dilemma, Adrian Furnham proposes a model in which the two are interdependent, constantly feeding and adjusting each other. The term „implicit" also denotes the characteristics of weakly and tentatively articulated cognitions that may not always be systematized and shaped in a declarative fashion; „lay" indicates rather a wide acceptance, popularity and also emphasizes the characteristic of non-specialized discourse, the weak familiarity with the scientific approach of the subject.

As some authors noted, implicit theories tend to follow the personal geography traced by the individual for his own self (Critcher & Dunning, 2009), especially on the descriptive

components of the personality (inter-trait relations) and the more elaborated, causal and predictive propositions seem to stem from these egocentric descriptive elements. Nevertheless, they integrate socially validated and popular convictions about the person. They may spring from culturally-induced and shared beliefs, present in proverbs and sayings (such as „Idleness makes the wit rust").

Explicit definition of creativity - utility, novelty, heuristic, nonalgorithmic approach (Amabile, 1985). In contrast, implicit theories favour the novelty aspect, ignoring utility. Because of the polemic and polysemic nature of the concept, there is a variety of personal theories regarding creativity.

Interest in studying implicit theories has sprung after Carol Dweck's demonstration of their influence on motivation and action, at least in the area of learning and self-regulation. As Runco and Johnson (2002) put it, these theories can inhibit or promote creative activity. The lay beliefs systems regarding creativity can be conceptualized along three axes, as proposed and described by Andiliou and Murphy (2010) (a) the sets of beliefs concerning the nature of the phenomenon itself, the characteristics of creativity; (b) the beliefs about the personality profiles of the individuals and (c) the beliefs regarding the environments that foster or inhibit creativity. Of the three dimensions, we chose the first two, in order to analyze and integrate them.

Historically, the second approach had the most popularity in the literature, probably because of the ease to elicit the answers

(Fryer & Collings, 1991; Runco & Bahleda, 1987). The universal personality profile of the creative individual is comprised of the following attributes: artistic, capable, smart, curious, imaginative, individualist, intelligent, open-minded, original, and resourceful (Runco, 2011).

The focus on the perception regarding creativity and the creative process has been diffuse. No previous study (except O'Connor, Nemeth & Akutsu, 2012) has studied implicit theories regarding malleability of creativity and other aspects, such as its predictability, temporal stability, trans-situational consistency.

Empirical research

Chapter 3. Implicit theories of creativity and creative personality. Qualitative exploratory study

The first empirical research was conducted to explore the naive definitions and portraits attached to the notion of creativity and prototype of creative personality, through a sequential analysis of the spontaneous answers generated by participants in the study. The responses were subjected to a content analysis conducted for the refinement and synthesis of the empirical meanings attached to the phenomenon of creativity, first independently and after that, in relation to results previously reported in the literature.

2.1. One of the first intentions was the identification of personality traits associated to the persons evaluated as creative. A second intention consisted in the extraction of personal explanation

of the phenomenon, through the elicitation of personal definition from the part of study participants. We organized the extracted definitions and portraits, disposing them in independent semantic units, integrating them in the models already existent in the literature, with the aim of generating a componential model of naive or implicit theories of creativity. We briefly present the resulting themes based on the content analysis of the responses generated by 100 participants:

a. Rigidity of the characteristic (belief in the malleability vs fixed character of creativity). This concept reflects a bipolar conceptualization of creativity, at one pole residing the vision that creativity can be enhanced, grown and refined in time, through exercise and hard-work.

b. Stability of the trait (vs. instability). The dimension reflects the assumption that creativity is an attribute that, once possessed or acquired, cannot decay, deteriorate or fade with time, in the absence of proper actions for its "capitalization", either due to underuse, or an unstimulating social and/ or educational environment

c. Cohesion with other traits or abilities (dispositionism vs contextualism). This set of answers refers to a typological vision of the creative personality and one that emphasizes predictability.

d. Pervasiveness or *trans-situational consistency*, reflects the belief that the characteristic, if present, manifests in all or at least, many domains of individuals' both professional and personal life, for instance from occupational to spiritual endeavours and also reflected

in social interactions. The creative ability is manifesting with great generality and finds various forms of expression in several contexts, in an active and spontaneous way (the multilateral potential view).

e. Desirability or normative-valoric dimension. This theme illustrates the way in which individuals think that creativity is encouraged by society.

f. The sixth construct is reflecting the aspect of statistical frequency and was labelled *rarity*. The dimension refers to the perceived frequency or occurrence of the characteristic in the population. Two opposite views have been identified in the answers of the subjects, one reflecting a rather populist view, which relies on the idea that everyone has the trait to some extent and it only needs to be activated.

g. Relativism or conceptual homogeneity (clarity vs. ambiguity of the characteristic). Being one of the concepts in Psychology that possessed several definitions, operationalizations and theoretical descriptions, in the lay discourse creativity evolved in the same ambiguous terms. At one extreme we have the view that postulates the need and possibility to clearly define the trait and find the right measures to pinpoint it. At the other end the continuum we find the view according to which the possibility to find and provide a specific definition for creativity is illusory.

h. Relationship with deviancy.

2.2. The personality portrait of the creative individual

In the relationship between creativity and personality, the spontaneous associations marked by the participants are going through both the positive and the negative descriptive pole, as in the case of extraversion, emotional stability, but this observation is applicable only for a limited number of responses. Generally, the spontaneously associated traits are positive, creativity being conceptualized as a beneficial trait.

Chapter 4. Cultural adaptation of the Short Scale for Creative Self (SSCS, Karwowski, 2010)

In the present series of studies we describe a Romanian version of the Short Scale for Creative Self and its psychometric characteristics.

The scale was adapted on student populations in a series of three studies that aimed to investigate whether the items fitted the original two-factorial structure well (CFI = 0.92, RMR = 0.04) and had satisfactory reliability (internal consistency for the Creative Personal Identity scale was 0.895, for Creative Self-Efficacy 0.847).

The data also indicated convergent validity, relating the scales to general self-efficacy, self-esteem, need for cognition

measures and adequate criterion validity in relation to a set of divergent thinking measures.

SCSS showed good convergent validity with several measures and criterion validity with creativity indicators, based on self-report but also on more objective measures. The instrument shows also fair temporal stability, internal consistency and the factor structure replicates the original one, obtained on Polish samples.

The results indicated that the Romanian adaptation of the SCSS scale is a reliable and valid measure that is suitable for research, especially for its robust psychometric qualities and shortness, an important aid in self-report surveys.

Chapter 5. CONSTRUCTION AND VALIDATION OF A SET OF SCALES MEASURING IMPLICIT THEORIES OF CREATIVITY AND OF THE CREATIVE PERSONALITY

The focus on the perception regarding creativity and the creative process has been diffuse. No previous study (except O'Connor, Nemeth & Akutsu, 2012) has studied implicit theories regarding malleability of creativity and other aspects, such as its predictability, temporal stability, trans-situational consistency. The original set of items for the ITOCQ scale was developed on the basis of the definitions generated by the participants on our qualitative study. The malleability scale was comprised of 13 items (e.g., "Every individual is born with a fixed, stable amount of creativity and cannot do very

much about changing it"), while the other scales had the following composition for each of the assumed dimensions: stability - 6 items (e.g., "A person who is creative at this moment will also have at least the same level of creativity in the future"), predictability -10 items (e.g., "I believe that there is a certain personality type characteristic for creative people"), trans-situational consistency – 10 items (e.g., "An individual who is full of ideas at the workplace is probably the same in his personal life."), desirability – 14 items (e.g. "I believe society generally discourages the manifestation of creativity."), rarity – 10 items (e.g., "Creativity is a very rare feature"), deviance - 8 items (e.g., "Being a creative person usually means having certain behavioural problems."), conceptual ambiguity – 10 items (e.g., "Creativity is very difficult to pinpoint"). The second scale, NTCP, was specifically developed for this study, using a set of bipolar descriptions the big five personality factors and corresponding traits.

To investigate convergent validity, the two scales were applied together with a series of validation measures *Creative self-efficacy and creative self-identity (SCSS), Creative Behaviour Inventory (Dollinger, 2003), Personality Beliefs Inventory (Church et al., 2003)* on 193 students enrolled in the Faculty of Psychology and Educational Sciences, at Alexandru Ioan Cuza University from Iasi.

Results indicate an adequate nomological structure that reflects partial overlapping with connected concepts. For instance,

overall trait beliefs scores correlated with ITOCQ *predictability* and *transsituational consistency* measures, while contextual beliefs were poorly, but significantly correlated with *ambiguity and transsituational consistency* of creative behavior – in the case of the latter variable, the relation is an indirect one. The two mentioned ITOCQ scales discussed above (*Predictability* and *Transsituational consistency*) also correlated to both creative self dimensions, creative self-efficacy and creative personal identity (see Table V.4), indicating the possibility that the two dimensions allow the individual to cultivate and endorse positive self-definition in this ability area, given the fact they are seen as consistent and deterministic qualities.

Internal consistency for the majority of the ITOCQ scales is satisfactory, ranging between .60 (stability) to .718 (relation with deviance), with the exception of the desirability (.40) and rarity (.34) scales, that were ultimately eliminated from the final questionnaires. To explore the factorial structure of the ITOCQ scales, we used Principal component analysis (PCA), with Varimax orthogonal rotation. The resulting structure majorly overlapped with the hypothesized factors.

Regarding the relations with everyday creative achievements, there were no significant relations with creative behaviours as measured by Creative Behavior Inventory, so we didn't report the scores. However, given the fact that implicit theories are often moderated by self-efficacy beliefs (Dweck, 2001),

we verified whether creative self-efficacy acts as a moderator between the behaviour-oriented measure of everyday creativity and implicit theories.

To investigate this possibility, we employed a moderation analysis using linear regression through bootstrapping with the help of PROCESS macro developed by Hayes (2012) for SPSS. We thus tested the conditional relation between malleability and creative performance with creative self-efficacy as intervening variable (95% confidence level, based on a 2000 samples bootstrap distribution). The overall model is significant, F (194) = 5,64, p = 0,001.

The answer to this question is positive, analysis using Hayes (2012) PROCESS indicating that at low levels of creative self-efficacy, there is a positive correlation between *malleability* theory and frequency of creative behaviours (t (188) = 2,575, p = 0,0108), *beta* = -.141). Given these results, this study suggests that a cross-cultural consistency in the link between an incremental theory of creativity and creative performance, but brings into discussion an important variable, creative self-efficacy.

A twofold purpose was attached to the second study: firstly, we wanted to test the factorial structure of the implicit theories of creativity scale (ITOCQ) developed and tested in the previous study, this time through confirmatory factor analysis. Secondly, we examined the criterion validity of the scale, focusing on the relationship between each factor and proximal and distal outcomes of individual creative behavior (motivations for engaging in creative

tasks and divergent thinking levels). ITOCQ and NTCP, the scales measuring implicit theories of creativity and creative personality (described in the previous study) were applied together with individual divergent thinking measures (Stoica-Constantin & Caluschi, 2005) and a measure of Task motivation (measuring interest, competence and effort). To measure personality, we used two separate measures, IPIP-50 (Goldberg, 1999) and the Ten-Item Personality Inventory (Rammstedt & John, 2007); c*reative self-efficacy and creative self-identity* were also measured.

The verification of the factorial structure of the ITOCQ scales was tested through first – order confirmatory factor analysis, using the MLE method (maximum likelihood estimation) with item parceling prior to the confirmatory factor analysis. The resulting model showed adequate fit (χ^2_{74}= 136.02, p <.01; TPI = 0.94, GFI = .925, AGFI = 0.883, RMR = 0.043; RMSEA =. 053).

Regarding criterion validity, we mention among other results, that *trans-situational consistency* correlated with the self assessed competency scale (*r*=.160, *p*=.017). Analyses conducted with PROCESS macro for SPSS sustained our suspicion and indicated that confidence in abilities affect the relationship between incremental theories and creative performance differently, depending on the level. More specifically, while for low levels of confidence or creative self efficacy an incremental theory predicts creative score (t=2,3348, p=0,02), the reversed relationship is revealed for high levels of self-efficacy (t=-2,003, p=0,046).

Another set of analyses were conducted towards identifying whether and to what extent variation in each participant's implicit theory of the creative personality, measured through individual traits and composite scores corresponded to variations in the evaluator's scoring on the IPIP-50 questionnaire. As expected, results indicate that the highly the person scores on a particular personality dimension, the more favourable will the personality of the creative prototype rated on the corresponding NTCP marker. This is true only for some of the personality domains, namely for conscientiousness, agreeableness and extraversion.

Regarding the Openness scale, results were inconclusive, probably because of the low variability of the ratings and high inter-rater consistency. Also, one of the openness marker correlates to the *deviance* scale (r = 0,155), one that taps precisely the dimension that refers to disregard towards norms and conventions ("nonconformist"). Interesting associations are observed between the four conscientiousness markers of the NTCP and not only the corresponding personality measure, but also the *ambiguity* and *deviance measure.* The relations are statistically significant, negative but generally low. The correlation between regarding creativity as an ambiguous trait is correlated with the tendency to rate the creative personality more closely to the negative facet. This is applicable to the majority of conscientiousness, emotional stability markers and one of the agreeableness markers.

The third study focuses on the investigation of the

implications of variations in personal beliefs regarding creative ability and personality on proximal (task motivation, perceived conflict, teamwork quality, satisfaction and group identification) and distal (team performance) outcomes of teamwork focused on solving a creative task. Group outcomes, in terms of subjective experience (teamwork quality, satisfaction, identification with the team) have been related more objective ones (performance or creative output) as several studies indicate.

Of the 190 participants investigated in the previous validation study, 64 participants (of which 57 were male and their ages ranged between 19 and 27, M_{age} =20,15; SD = 1,12) were later contacted and asked to participate in a second study.

Group creativity tasks, Scales assessing motivation for creative activity (the same as the one applied after the individual task) and Teamwork quality, intragroup conflict asymmetry were applied. We explored three different types of intragroup conflict: task conflict (TC), relationship conflict (RC), and process conflict (PC) (Jehn, 1994, 1997).

We expected the scores on the ITOCQ dimensions to be associated to both the post-task self-reported motivations and the perceptions of group creative teamwork and intragroup conflict asymmetry. The results regarding individual perceptions of conflict indicate that of the six theories, *malleability* correlated significantly to task conflict asymmetry (r=-.313). At the same time, the *deviance* scale seems to be negatively related to satisfaction with teamwork

and group identification.

Test-retest reliability was verified through the application of the scales on 54 from the original sample. Results for the scales are as follows: predictibility (r_{tt} = .322, p = .022), maleability (r_{tt} = .336, p = .017), stability (r_{tt} = .439, p = .001), trans-situational consistency (r_{tt} = .513, p < .001), conceptual ambiguity (r_{tt} = .639, p < .001), deviancy (r_{tt} = .610, p < .001).

The aim of this ensemble of studies was to bring together the dispersed and restricted field of study of implicit theories of creativity and the social cognitive approach of motivation and achievement, best represented by Dweck's (1999) model of self-theories. Although we expected a positive association between the ITOCQ malleability scale and trait beliefs and a negative one between the same scale and contextual beliefs, the present data provide no apparent evidence for this hypothesis. We also expected an inverse pattern of association between the ITOCQ stability scale and the same dimensions but no evidence was found in this direction, either. This might indicate that when it comes to conceptualizing creativity, naïve theories are separate by general traitedness versus contextualism visions. However, the data attest the existence of relationships between ITOCQ predictability and transsituational consistency measures on one hand and dispositional beliefs regarding personality; conversely, contextual beliefs were significantly associated to ambiguity and transsituational consistency of creativity. There are moderate and low correlations with the intensity (effort)

and self-efficacy (competency) reported by the participants during the creativity tasks. These results may indicate that implicit theories could indirectly be related to creative behaviour, through a motivational pathway. This could be explained as follows: for the less confident subjects, incremental theories could increase their efforts and persistence in creative tasks and behaviours, while holding the opposite, entity view might increase their self-handicapping and avoidant reactions in situations that require flexible and creative response.

Chapter 6. NAÏVE THEORIES OF CREATIVITY AND SOCIOCULTURAL FACTORS REVISITED. THE POTENTIAL EXPLANATORY ROLE OF CREATIVE SELF-EFFICACY AND CREATIVE PERSONAL IDENTITY

The relations between the naïve theories of the creative personality, creative self-efficacy - measured with the Short Scale for Creative Self (SSCS, Karwowski et al., in press) - and a series of cultural dimensions, treated as personal characteristics, are investigated in the Romanian cultural context. These variables regard independence-interdependence (Singelis, 1994), individualism-collectivism (Shulruf, Hattie & Dixon, 2003) and individualistic vs. collectivistic value orientation.

Results reveal that dimensions of the creative self-efficacy are positively and strongly associated with individualism and

individualistic values (self-direction, stimulation, hedonism), but not with interdependence and collectivism. The social desirability of the personality ratings of a creative personality prototype on a set of bipolar adjective pairs correlates with the adherence to individualist values and this relation seems to be mediated by creative personal identity, particularly for the agreeableness and conscientiousness descriptors.

These results suggest that an idiocentric but not an allocentric orientation may predict the components of the creative self. At the same time, they indicate that the personal views on the creative personality may be modelled by the adherence to individualist values and their integration in the definition of the self, more than by the beliefs on one's own abilities or the actual frequency of individualistic behaviors and beliefs.

Chapter 7. KINDERGARTEN AND PRIMARY SCHOOL TEACHERS' PERCEPTIONS OF CREATIVITY. COMPARISONS WITH SECONDARY SCHOOL EDUCATORS

Creative potential is modelled by the educational practices that are unquestionably influenced by the theories teachers hold regarding abilities. Known as implicit, naive or lay theories, these sets of assumptions shape the explanations, interpretations and

predictions people generally develop regarding the configuration of traits, abilities and performance in people. Studies indicate that the majority of teachers acknowledge and value creativity as an important component of their practice, but often face difficulties in embedding it in the strategies and methods employed in the classroom or control its behavioural "side effects" (Beghetto, 2006, 2007; Ingersoll, 2003).

The current study explores the configuration of the underlying assumptions that shape the perceptions of kindergarten and primary school teachers regarding the properties of the creative ability and the prototypical personality profile of the creative individual. These assumptions are analyzed in comparison to the perceptions of other categories of teaching personnel.

In order to explore teachers' beliefs about creativity, we used a 40-item multidimensional scale developed to measure implicit theories regarding the following aspects: the malleability of creativity, the stability and predictability of this particular ability, its trans-situational consistency, the perceived relationship with deviant behaviours and conceptual ambiguity. In addition to this scale, another measure consisting of 20 bipolar personality markers (following the Big Five model) was employed to measure the prototypical personality of an "above average" creative student.

The results suggest that kindergarten and primary school teachers tend to see creative potential as highly predictable, in

comparison to other categories of teachers, and to regard creative ability as a trait that manifests with great trans-situational consistency. In the same time, they tend to exaggerate the agreeableness of the creative student, partially contradicting the research findings regarding the relationship between creativity and this particular personality trait.

The result concerning the creativity-agreeableness relationship complements and mirrors from the perspective of the educator the conclusions of previous studies investigating pupils' implicit theories of creativity: age-related variables could be important in shaping implicit theories as younger students portrait creative individuals with socially desirable traits to a greater extent than older students (Pizzingrillia & Antonietti, 2010). These results suggest that the characteristics of the educational recipients could influence implicit assumptions about abilities, namely the creative ones.

General conclusions

On a theoretical level, the present conclusions have relevance for the social psychology of creativity and also for the assessment of personality and performance in general, pointing to the possibility of a variety of individual and situational factors that might affect the evaluations of the individuals, especially when the goal is a highly valued trait.

In this context, through the present set of studies we were interested, on one hand, in crafting a set of instruments that would better assess the theories developed at the commonsense level, regarding the way in which abilities are organized at an individual level. Based on the resulting instruments, we tried to test the way in which these theories interact between them and with other individual variables (creative self-concept, creative self-efficacy) to reflect a certain type of engagement and performance in creative tasks.

In the depiction of the creative personality, naive theoreticians tend to exaggerate the associations with extraversion and conscientiousness and put emphasis on traits related to openness to experience, in agreement with results of research that correlate everyday creativity with personality dimensions (Feist, 1998). In generating personal definitions, the participants in our studies make a lot of to the capacity of the ability to change in time, or, in opposition, with a greater frequency of responses oriented towards the idea of inherent malleability. With a greater frequency we observe the emergence of definitions regarding traits that are associated with or predict a high level of creativity, other referring to the role and positive impact, in some cases the negative impact of this phenomenon.

There is an extensive body of research on the flexibility of these implicit theories, their effects on performance and perceptions of behaviours, especially explored in the ability domain, especially intelligence (Dweck et al, 1995a & b; Kray & Haselhuhn; Nussbaum

& Dweck, 2008), and these relations are a reason for their exploration and depiction. Previous studies already showed that self-efficacy and implicit theories of abilities and other dimensions of human functioning tend to affect performance, directly or indirectly, through persistence in the face of difficulty and the invested effort (Bandura, 1977; Dweck, Chiu, & Hong, 1995).

The results of the first quantitative study indicated that the conceptions regarding malleability of creativity are not necessarily related to the way in which human traits are seen in general, at least in terms of malleability or possibility of developing them. For those displaying a high creative self-efficacy and theories regarding creative abilities of a incremental nature, it is possible there is a discrepancy or incongruence between two types of cognitions, that could generate ambivalent attitudes, implicitly creating poor performances in specific creative tasks.

In general, in the altitudinal domain, studies demonstrated that assuming a entity theory and less malleable conceptions over human abilities tend to be associated with dysfunctional self-regulatory strategies and a less sophisticated vision of the person (e.g., Blackwell et al., 2007; Dweck & Leggett, 1988; Schommer, 1990), a conclusion that, in the light of the present results, tends to be more nuanced.

It is possible that incrementalists with low self-efficacy to lack those type of cognitions that automatically associate investing effort with lack of ability. In their case, incremental theories should

act as a motivational, sustaining and compensating mechanism with effects on performance. Dweck and Leggett (1988) show that individuals who are predisposed to regard human qualities in static terms also have the tendency to make "oversimplifying portraitisations, the all-or-nothing kind on the basis of a reduced sample of actions or outcomes" (p 267), something that leads to simplistic processing. This type of conclusion could be relevant, at least how the results show, for individuals with low creative self-efficacy.

The studies presented in the following chapters showed, that the tendency to adopt a stereotypical view of the creative individual, associating the prototype with traits such as nonconventionality, nonconformism, rebellion and deviancy (Kasof, 1995) is closely related to the belief that creativity is hard to define and measure. We also showed that the ways in which individuals view creative personality is determined by self-reported individualism, mediated by the level of creative self-identity. The last chapter was focused on revealing the differences in the views of two different categories of teachers regarding creativity, by comparing the educators involved in kindergarten and primary with those from secondary education.

Through this endeavour, we attempted to identify the reference framework for the identification of the theories that people hold for the definition, representation, evaluation and prediction of creative behaviours. We also indicated that the differences regarding the configurations of these conceptualisations are sensible to various

variables, such as the specific of work, to personality and motivation. Moreover, based on these preliminary conclusions, we allowed a first evaluation of the overlap between the naïve and scientific theories regarding creative personalities, pinpointing the intersections and the areas most subjected to distortions.

Through the presented designs, we tried to make the first steps towards showing that implicit theories of individuals regarding the personality traits and creative abilities and the specific relations between them are not inert causal theories or independent cognitive schemas, but are charged at an affective-motivational level, orienting the choice of performing and interpreting certain behaviours. In the studies oriented to the scale validation we investigated the relation between the implicit theories and creative motivations and behaviours and self reported perceptions, objectively measured. We did not discover a direct relationship between these lements, but one that is mediated by the level of confidence in ones own abilities. These theories seem to have different effects at distinct levels of creative self efficacy.

Results indicated that implicit theories affect, at least in an indirect fashion, the performance of individuals in creative tasks but also the level of engagement in everyday creative behaviours. Thus, the collected data reveal that implicit theories model the motivations of the individuals to engage in creative acts. Although conducted on a small number of participants, the study revealed that these theories are associated with task performance, incremental theories being

favoured. At the group task level, some of the theories are related to the proximal indicators of teamwork quality and with satisfaction in task, group identification and perceptions of intragroup task conflict.

These series of research should be complemented and continued with a series of designs that should reduce the methodological deficiencies, attached to and discussed for each study. On one hand, extending the participants samples and their balancing on gender is a first priority. Also, obtaining data from the general population with more heterogeneous socio-demographic characteristics would be also indicated. Secondly, testing and extracting conclusions on specific populations, that work in creative domains where recruiting, selections and performance appraisals of individuals selected based on their creativity level could bring information regarding the practical utility of the scales.

Beyond the organizational context, another area of applicability would be the educational domain. As showed in the last presented studies, the theories of educators tend to be sensible to the specific of the work and the beneficiary.

Experimental validation of significant results, especially those regarding the egocentric projection of personality patterns and manipulating implicit theories to verify the effect on creative motivations and performance in individual and group tasks is the following natural step in the ensemble of studies on the topic. We will try to analyze the determinants of these theories, emphasising this time the predictive value of the resulting scale, through more

refined and verified measures of both motivation and divergent thinking, to extract the subtle interplay between the variables.

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