DISCUSSION OF RESULTS

Creativity is the ability to invent and develop new and original ideas. The psychological study of creativity is not just useful, but imperative to the progress of mankind as it forms the basis of new ideas, new thoughts, new paths and consequently the evolution of the human race. A predominant development that 150 years of psychological research has achieved is possibly the realization of the indispensable role of cognitive processes such as creativity and their association with affect and conation (Singer, 2004). Researchers as early as Guilford (1950) admitted that whether or not the individual who has the requisite abilities will actually produce results of a creative nature will depend upon his motivational and temperamental traits (Guilford, 1950). As Hilgard (1980) suggested, a synthesis of the cognitive, affective and conative components is paramount to formulate a theoretical account of any psychological process, in the way it presents itself in the real world. The current study aims at understanding creativity from a tripartite view, covering as much ground as possible. It is also a validated fact that creativity is not the same across all fields, in terms of its processes vis-à-vis products. In this context, Stanley Stark’s (1965) profound dual conception of creativity is a satisfactory portrayal of context-specific distinct forms of creativity: novelty and meaning. Limiting any study of creativity to one type will considerably limit the application of its findings. Here it is proposed that the three components of behaviour are likely to have their contribution in varying amounts for both types of creativity, which is further likely to influence all the future operations of that creativity in specific contexts. Results obtained in this regard i.e. for variables depicting cognition, affect, conation which possibly influence one’s creative expression yielded valuable information. Though information yielded by each method of analysis was specific and valuable in its own right, information in combination with each other has contributed to our understanding of the phenomena in a significant manner.

COGNITION AND CREATIVITY

Many researchers have reviewed creativity as a cognitive construct. The main focus of this body of research has been to analyse creativity in terms of intellectual processes involved in creative expression or analysis of nature of information processing by creatives. Guilford (1967) was a strong supporter of the view that
intelligence and creativity are indeed related. His studies show that creativity and intelligence correlate throughout most of the IQ distribution. The fact that intelligence and creativity are positively correlated has found major support in psychological literature (Squalli and Wilson, 2014; Simonton and Song, 2009; Wodtke, 1964; Yamamoto, 1964, 1965; Sharma, 1972; Azmi, 1974). The main limitation involved in these studies has been that almost all studies adopted a unidimensional approach to creativity. On the other hand, multi-dimensionality or domain specificity in creativity has got wide support from empirical studies (Fiest, 2004; Baer, 2015, etc.). Keeping this issue in mind, analysis of the role of cognitive ability in two types of creativity as suggested by Stark (1965, 1968) became essential.

Hence, it is only natural to start with an analysis of the relationship that emerged between the cognitive indices, i.e., ‘intelligence’ and ‘field independence’ with both novelty and meaning creativity. In the present investigation, statistical analysis of the obtained data invariably supported the role of ‘intelligence’ in the expression of ‘novelty creativity’. Correlational analysis revealed that F+, O and almost all TTCT indices correlated significantly and positively with ‘intelligence’ as well as ‘field independence’. Additionally, factor analysis showed R, which is widely accepted to be a measure of verbal intelligence, also aligned closely with indicators of ‘novelty creativity’, as seen in the factor loadings of Factor I. Furthermore, regression analysis showed that intelligence contributed between 1.3% to 6.2% to all indicators of ‘novelty creativity’.

Interestingly, it was seen that the expression of ‘meaning creativity’ was not uninfluenced by ‘intelligence’ either. Correlation between ‘intelligence’ and ‘meaning creativity’ was also positive and significant, but the value as compared to those with indicators of ‘novelty creativity’ was much lower (r=.120, p<.05). Even factor analysis depicted an affinity of ‘intelligence’ with ‘meaning creativity’, as seen in the factor composition of Factor VI. In continuation of this analysis, regression analysis also showed a significant contribution of ‘intelligence’ in ‘meaning creativity’ (1.4%), with the percentage contribution being much lower as compared to that in ‘novelty creativity’.
Studies conducted by Roe (1953) on creative architects and by MacKinnon (1968) on eminent physicists, biologists, mathematicians, architects, social scientists, etc. showed a significant role of intelligence in creative expression. Intelligence, which has been taken up in the present investigation, involving reasoning skills, has been shown to be related to flexibility of thought (Sligh, Conners and Ewoldsen, 2005). But all problem solving may not be necessarily linked to artistic creativity (Runco, 1996). In many cases a creative artistic product may be a way of self expression and not the result of a problem solving process (Parkhurst, 1999), though some optimal level of intelligence is always required to think and express in a novel way. Similar findings are clearly observable in the present investigation as well, which are in line with the first hypothesis which states that intelligence will be more closely associated with novelty creativity than meaning creativity.

Findings on similar lines have been reported for the second cognitive index, i.e., ‘field independence’ as well. Correlational analysis revealed that F+, O and all the TTCT indices correlated significantly and positively with ‘field independence’. Additionally, regression analysis showed that ‘field independence’ contributed between 1.3% to 8.8% to all indicators of ‘novelty creativity’.

Just like the trend seen with ‘intelligence’, ‘meaning creativity’ was also influenced by ‘field independence’, but not to the same extent as ‘novelty creativity’. Correlation between ‘field independence’ and M was also positive and significant, but the value as compared to those with F+ and psychometric indicators of ‘novelty creativity’ was much lower ($r=.190$, $p<.01$). Factor analysis on the other hand, depicted an inclination of ‘field independence’ towards ‘meaning creativity’, as seen in the composition of Factor VI. Similar to the correlational results, regression analysis also showed ‘field independence’ to contribute significantly to ‘meaning creativity’ (3.6%), with the percentage contribution being much lower as compared to that in F+ and psychometric indicators of ‘novelty creativity’. The results of the present investigation reveal that while overall contribution of cognitive ability is much more crucial for ‘novelty creativity’ than ‘meaning creativity’, role of ‘field independence’ is much more important than just ‘intelligence’. These results support the first hypothesis that intelligence and field independence would be more closely associated with novelty creativity than meaning creativity.
Creativity, from this perspective, is seen as a form of thinking, for which cognitive style is crucial. Many studies by Spotts and Mackler (1967) provide evidence in favour of the positive correlation between field independence and creativity, but simultaneously they observed that while all field independent individuals may not be as creative, it has been seen that highly creative persons do mostly score high on field independence. Studies that correlate creativity and field independence indicate that the cognitive abilities that are exhibited by creative individuals and field independent individuals are, to a large extent overlapping (Hecht and Reiner, 2007). Most researchers will agree that as a process, creativity inter-fuses the individual with his/her world. People who are creative tend to play with, reconstruct and assimilate distinctive as well as conflicting components of what they observe in the world around them. Now, while a field dependent individual is prone to experience a vast range of sentiments and feelings that are crucial to the creative process, he/she has a tough time in meaningfully organising knowledge and experiences. On the contrary, a field independent individual is seen to be able to break up and reconstruct knowledge into novel structures, with relatively more ease, which aids exponentially in the creative process (Spotts and Mackler, 1967). Furthermore, Goodenough (1976) observed that field dependent individuals approach a problem solving situation in a rather passive manner, which is not favourable to the creative process. Gestaltists such as Wertheimer (1945) explained that creative thought takes place in an unisolated field. The creator analyses the structural composition of the field and continues to bring changes in it, until the voids and gaps are filled, to achieve a state of equilibrium. Thus, a critical aspect of creativity is to be able to segregate the whole into parts while constantly being aware of the original totality, which is important, though in varying degree, in both types of creativity, i.e., novelty and meaning creativity.

Research shows that field independent individuals are more intrinsically oriented (Witkin et al., 1954) while field dependent individuals prefer to work in a more collaborative manner as they are more sensitive to social and environmental cues (Goodenough, 1976; Wooldtridge and Bartolf, 2008). Field dependent individuals globally organise the surrounding field and identify certain sections of the field as important (Wooldtridge and Bartolf, 2008). ‘Novelty creativity’ as a concept is closer to the definition of creativity given by modern researchers such as Csikszentmihalyi
(1996), who state that the only way to assess the creativity of an idea is by comparing it to a standard, hence, making social evaluation indispensable. An individual cannot be creative by himself. It is the interaction between his thoughts and the socio-cultural context that will decide. Basically, creativity prevails in the synergy between the creator and his audience. However, expert opinion cannot always be the final judgment. History provides ample proof of the fact that many times it takes a new generation to appreciate a creative achievement. Also, agreement among experts on what is creative and what is not, is hard to come by (Kaufman and Baer, 2012), thus making ‘meaning creativity’ a crucial form of creativity as well, which requires a certain distance from the field, which is characteristic of field independent individuals.

While useful information has been revealed by an individual analysis of both the cognitive indices, some additional parameters must also be taken into account. A combined influence of both cognitive indices was also computed by means of multiple regression analysis. It is evident that when taken together the contribution of cognitive indices in ‘novelty creativity’ (upto 9.3%) was much higher as compared to ‘meaning creativity’ (3.7%).

Additionally, one cannot ignore certain Rorschach indices which are widely accepted to be measures of cognitive abilities as well. While R is considered to be a strong indicator of verbal intelligence, W is also seen as an indicator of intelligence as well as creativity which requires the ability to organise information imaginatively (Exner, 1974; Piotrowski, 1957). While R correlated highly significantly and positively with F+ and O (r=.907 & .581, p<.01), it did not yield significant correlations with M or even Fm. W correlated positively and significantly with F+ and O (r=.410 & .155, p<.05) as well as with M, but with lower correlational value (r=.273). Factor analysis revealed that ‘novelty creativity’ has highly significant loadings on R (0.92), while ‘meaning creativity’ has low but significant loadings on W (0.41).

In totality, these findings strongly confirm the conjecture in hypothesis four that the contribution of cognitive ability index will be significantly higher in novelty creativity than meaning creativity. These findings can be understood on the basis of the distinction in weightage to be given to the two cardinal requirements of creative production, namely, originality and appropriateness. The fact that cognitive abilities
contribute differently to both contexts of creativity is probably due to the fact that while utility and appropriateness are considered to be more crucial for creative expression in the novelty context such as in the science or business streams, it is uniqueness and originality that are more valued for creative expression in the meaning context, such as in the artistic streams (Lubart and Guignard, 2004).

**AFFECT AND CREATIVITY**

The relationship between affect and creativity has been a controversial one. Contrary to the popular belief that artistic creativity has all to do with emotions and scientific creativity has nothing to do with them, Feist (1991) stated that both domains are not completely exclusive of each other. A stage-wise analysis of the creative process shows that during the discovery stages, scientists tend to be intuitive and emotional. Similarly, artists need to be technical and stable in the elaboration stages. Following is a discussion on the light shed by the present findings in regard to the role played by affect, particularly ‘positive and negative affect’, in the expression of novelty and ‘meaning creativity’.

Correlational analysis revealed a significant and positive relationship between ‘positive affect’ and some indicators of ‘novelty creativity’, namely, O (r=.135, p<.01) and psychometric indices of creativity (r=.099, p<.05). While no other significant correlations were seen with the direct measures of affect, some interesting relationships were seen with the projective indices of emotion. FC, which depicts the dominance of rational thought along with the presence of controlled emotional sensitivity, correlated positively and significantly with almost all indices of ‘novelty creativity’. Low but significant correlation was also observed between FC and M (r=.112, p<.05). CF, which depicts some overlap between control of emotions and inner creation, correlated positively and significantly with all indices of ‘novelty creativity’. Similarly, C or the pure colour responses, which are an indicator of presence of less controlled emotionality in one’s thoughts and behaviours also correlated positively and significantly with all the ‘novelty creativity’ indices. Low but significant correlation was also observed between C and M (r=.111, p<.05). These findings confirm the first half of the second hypothesis which states that *positive affect will have positive and significant association with novelty creativity.* Furthermore, regression analysis also indicated towards a bias of ‘positive affect’
towards ‘novelty creativity’. It contributed significantly to O (1.8%) and total creativity (1%), thus confirming the first part of the fifth hypothesis that *contribution of positive affect will be significantly higher in novelty creativity*.

These findings can be viewed from at least two different perspectives. While one perspective discusses the benefits of the cognitive abilities that accompany positive affect, the other view discusses the direct benefits of experiencing positive emotions. There is a lot of evidence supporting the link between positive affect and creativity (Forgas, 2000; Hirt, 1999; Isen, 1993, 1999; Isen and Baron, 1991; Isen, Labroo and Durlach, 2004; Montgomery, Hodges and Kaufman, 2004; Tan and Qu, 2015). Positive mood has been shown to promote creative problem solving (Hirt et al., 2008; Isen, Daubman and Nowicki, 1987; Isen, Johnson, Mertz and Robinson, 1985; Kaufmann, 2003; Vosberg, 1998, Estrada, Isen and Young, 1994). Murray, Sujan, Hirt and Sujan (1990) provided evidence showing that when experiencing positive emotions, individuals perceive more accurately the similarities and differences in varied concepts, qualitatively and quantitatively. Fredrickson (2001) asserted that positive moods enhance creativity by widening one’s repertoire of cognitions. Positive affect leads to a type of cognitive variation and organisation that enhances creativity (Isen and Daubman, 1984; Clore, Schwartz ad Conway, 1994). Additionally, it promotes the integration of information and flexibility in thought (Isen, 1987, 1993, 1999a; Isen and Daubman, 1984; Isen, Daubman and Nowicki, 1987; Isen, Johnson, Mertz and Robinson, 1985; Isen and Means, 1983; Isen, Rosenzweig and Young, 1991). It has been seen that positive affect increases creative divergent thinking and negative affect has no such influence. Furthermore, creative production increases with an increase in the intensity of positive affect (Fernandez-Abascal and Martin Diaz, 2013). Existing research favours the view that positive affect enhances creativity by loosening conceptual boundaries, promoting overinclusive thought, original word associations, broader categorisation of information, increase in the number of ideational associations and more ideational intrusion (Jamison, 1993; Weisberg, 1994; Vosburg, 1998a).

The Behaviouristic view also claims that an individual learns creative responses because it makes him feel better or is rewarded for it (Skinner, 1975). A similar explanation for the link between positive affect and creativity, as suggested by Newton (2013) is that positive moods are accompanied by feelings of security and
unguarded exploration, thus guiding one towards creative endeavours. Positive affect reduces the insecurity that accompanies one’s departure from the known and accepted (Ziv, 1976, 1983). However, it has also been seen that the effects of positive moods tend to abate with the passage of time and can induce the urge to accept less than optimum solutions (Clore, Gaspar and Garvin, 2001; Kaufmann, 2003; Schwartz, 2001; Schwartz and Clore, 2003).

Moving on to the role played by ‘negative affect’, no direct significant correlations or contributions with creativity were found, therefore disconfirming the second half of the fifth hypothesis which states that contribution of ambivalent affect will be significantly higher in meaning creativity. However, the composition of Factor XI, provides some valuable insights lending some support to the second half of the second hypothesis which states that ambivalent affect will align with meaning creativity. Factor XI has significant loadings on two colour indices, namely FC and FC’ and on the human movement index. This factor clusters together two Rorschach indices which depict that emotionality, with simultaneously withholding as well as expressive tendencies, which is available in the context and serves the process of inner creation, is present. Such individuals have better internal control over their emotions. Achromatic responses are an indication of sombre moods, chromatic responses are more indicative of activating emotions. Their presence together reveals that both ends of the emotional spectrum are available to the individual. The fact that human movement responses find significant presence in this factor reveals that an appropriate infusion of affect into the thought process is conducive to creativity, specifically ‘meaning creativity’. The composition of Factor XI is a clear indication of the fact that an optimal level of emotionality, negative and positive, is desirable for the expression of ‘meaning creativity’. These findings find support in Tagore’s (1922) viewpoint on creativity which states that without emotion, no creative work will be truly complete. But to achieve perfection, a modulation of emotions is required. Neither extreme will give results as perfect and as creative as a balance of both ends of emotions would.

Creativity is often viewed as a form of self-expression (Runco, 2004). According to the Psychoanalytic perspective, a creative individual is essentially a person who has successfully found a way to channel his/her unconscious conflicts. It is the emotions associated with repressed memories that are unleashed during a creative act. Some
research purports that negative mood can enhance creativity by eliciting focused attention, promoting analytical thought and a persistent and systematic concern for detail (George and Zhou, 2002; Kaufmann, 2003; Martin and Stoner, 1996; Schwartz, 2001; Schwartz and Clore, 2003). Furthermore, negative affect evokes strong introspective and perseverant thinking which facilitates creative thought (DeDreu, Baas and Nijstad, 2008; Kaufman and Baer, 2002; Verhaeghen, Joormann and Khan, 2005).

The fact that neither ‘positive’ nor ‘negative affect’ came out to be a clear predictor of ‘meaning creativity’ can be understood through Getz and Lubart’s (2000) assertion that the comparison between positive and negative affect itself is incorrect. De Dreu et al., (2008) have suggested that instead of positive and negative affect, differentiation should be made on the basis of level of arousal. They claim that activating moods (anger, fear, happiness) promote creativity and deactivating moods (calm, relaxed, sad) curb the creative process. Some researchers suggest that instead of focusing on the specific kinds of moods and emotions, we need to look into the more global concept of emotional intelligence and its relationship with creativity. Significant correlations have been observed between emotional intelligence and creativity (Guastello, et al., 2004; Noorafshan and Jowkar, 2013; Carmeli, McKay and Kaufman, 2014), but without delving into the issue of domain specificity.

Nevertheless, it is clear from the present findings that ‘positive affect’ clearly plays a crucial role in the expression of ‘novelty creativity’. Furthermore, while strong evidence is absent, there is an indication of both ‘negative and positive affect’ in combination with each other, influencing the expression of ‘meaning creativity’. This is what the relationship between ‘ambivalent’ emotions and ‘meaning creativity’ implies. These findings find support in a recent study conducted by Papworth and James (2003) who provided evidence stating that art students experienced lower moods as compared to science students. Atleast for the current sample, it is clear that creativity, specifically ‘novelty creativity’, is more influenced by ‘positive affect’ and negative emotionality that is often associated with creativity and affective health is doubtful, to say the least. However, Rorschach indices in Factor XI suggest the interplay of both ends of the dimension of emotionality in ‘meaning creativity’, as measured by M. This deflection of the association of creativity in recent researches and present findings from negative to positive has strong implications which can be
understood in terms of Rubenson and Runco’s (1992, 1995) Psycho-economic perspective on creativity which discusses the costs and benefits of creative behaviour in psychological terms. The stigma of creative behaviour being associated with negative affective traits as such must be done away with to encourage the expression of original and unconventional ideas, where ambivalent emotionality might favour creative expression in a domain specific context.

CONATION AND CREATIVITY

In spite of numerous differences, many modern creativity theorists seem to converge on one point, i.e., the essentiality of an individual’s deliberate and determined involvement in the creative process. An individual must be driven to create something noteworthy. This leads us to the next part of the discussion, i.e., the relationship between the conative styles and novelty and meaning creativity. The evidence regarding this relationship in the present investigation is somewhat mixed which could be due to the nature of the sample or due to the measure of conation used, which seems to be biased towards conation in the work settings.

In order to test the third hypothesis which states that empirical conative style would have higher positive affinity with novelty creativity while inspirational conative style would align with meaning creativity, the four conative modes were combined to form two conative styles, namely, ‘Empirical conative style’ and ‘Inspirational conative style’. This combination of two modes in order to derive one style was done on the basis of the theoretical construction of each mode and their apparent association with the creative process involved in different domains of activity. Following this ‘fact finder’ and ‘implementor’, under the guise of ‘empirical conative style’, were thought to be having affinity with ‘novelty creativity’ while ‘follow through’ and ‘quick start’, forming the ‘inspirational conative style’, were thought to align with ‘meaning creativity’. However, both conative styles did not show significant association with any of the creativity indices from both the domains of creativity, which implies that the proposed hypothesis in this regard stands disconfirmed. However, in order to follow it further, the four conative modes were taken independently and their correlations with creativity indices were computed, which yielded new insights into the dynamics of conation in the creative process.
Though none of these show significant association with any of the projective indices of creativity, some significant correlations of the conative modes have been found with the psychometric indices of ‘novelty creativity’. While the ‘fact finder’ conative mode correlated positively and significantly with all verbal creativity indices as well as with total creativity, the ‘follow through’ conative mode did so with just figural fluency. An alignment of the ‘follow through’ conative mode with the fluency and originality indices of figural creativity can also be seen in the factorial composition of Factor IV. The nature of factor loadings on this factor indicate that statistical infrequency or unusualness of ideas, at least in some forms of creative tasks, are accompanied by the production of a large number of ideas. In other words, the more the number of ideas generated by an individual, the more likely he is to come up with ideas that are imaginative and uncommon. Low but significant loadings on the ‘follow through’ conative mode indicate that production of multiple original ideas requires the ability to organise and prioritise one’s tasks efficiently, along with a high preference for structure and planning. On the other hand, the ‘implementor’ conative mode had negatively significant correlations with some of the psychometric indices of ‘novelty creativity’, including verbal and figural as well as total creativity scores.

Trends of associations between indices of conation and creativity obtained in the correlational analysis have also been observed in the findings of regression analysis. While the ‘fact finder’ conative mode contributed positively to verbal creativity and total creativity (1.8% & 1.1%), the ‘implementor’ conative mode contributed negatively to both as well (-1.2% & -1.3%).

‘Novelty creativity’ is analogous to the problem solving conceptualisation of creative behaviour and is more action oriented (Stark, 1968). This explains the role of the ‘fact finder’ conative mode that has emerged in the current findings. Fact finding is closely associated with gathering and sharing information, employing one’s expertise and striving for specialised skill (Kolbe, 2013). Various researchers have stressed the importance of knowledge acquisition in the creative process (Mednick, 1962). These findings can be understood in light of Wallas’ (1926) model of creative problem solving who gave four sequential stages of the creative process. In the first stage, preparation, an individual defines the problem based on acquired knowledge. At this stage, the basis for future creative thought is laid and essential information, experiences and abilities are acquired. To benefit the most from this stage, it is
essential that the individual develops rich and interconnected structures that can be utilised for the production of novel ideas. To do so, Spiro and Myers (1984) have proposed certain methods: encode ample amount of knowledge, encode the knowledge in multiple ways, encode it by using varied forms of thought (verbal, visual, etc.). This stage is meta-cognitive in the sense that creative individuals are more capable of objectively evaluating whether the information they have gathered is complete, rich and relevant for further use. Furthermore, they can skilfully regulate how and what to encode, as Spiro and Myers (1984) suggested. This stage of preparation has been considered to be crucial by many psychologists (Cropley and Cropley, 2008). Many researchers agree that one’s existing knowledge base directly contributes to the quality of creative ideas (Cropley, 1999; Feldhusen, 1995, 2002; Mumford and Gustafson, 1988; Sternberg and Lubart, 1995). A sense of competence and mastery has also been suggested to be a pivotal element of what motivates one to be creative (White, 1959; Harter, 1978).

Dollinger (2003) stated that need for cognition, as a motive, manifests as finding pleasure from engaging in complex and effortful thought. Cognition-motivated individuals are optimistic about finding solutions and constantly engage in knowledge acquisition. According to Hayes (1989), individual differences in motivation can lead to cognitive differences as well. If one is motivated to work hard, he/she can amass more knowledge, which can help in the problem solving process by qualitatively and quantitatively adding to the inferences and associations being made. This is what is implied in the ‘fact finder’ mode of conation where asking questions, weighing pros and cons, collection of relevant data and providing steps is an instinctive way of working on problems.

Contrary to expectation, the ‘implementor’ conative mode was found to contribute negatively to many indices of ‘novelty creativity’. The ‘implementor’ conative mode is characterised by an ability to indulge in concrete thinking and demonstrate one’s ideas in tangible form (Kolbe, 2013). This ability seems to be crucial to what Wallas (1926) called the final stage of creative problem solving, the verification stage. In this stage, the idea usually needs more modifications and refinements. Here, the creator compares the finished idea to an internal standard, that is, he/she needs to judge whether this is what he/she aimed to achieve at the beginning of the creative process. Then the idea is compared to external standards, that is, will it be judged as
novel and useful by other judges and experts. Thus it requires the capability to recognise what ideas are capable of implementation and how to implement them. It is probable that the nature of the study did not allow for the participants to arrive at or ponder over the final stages of their creative process. Moreover, what Kolbe (2002), the author of these conative constructs sees implied in the ‘implementor’ conative mode is an instinctive preference for working on materials and equipments rather than playing with abstract ideas and deriving solutions using underlying dynamics in the context.

While ‘fact finder’ and ‘implementor’ were thought to form the ‘empirical conative style’, the ‘follow through’ and ‘quick start’ conative modes formed the ‘inspirational conative style’. ‘Meaning creativity’ is characterised by ambiguous intra-psychic processes (Stark, 1968). This explains why the ‘inspirational conative style’ was thought to play a positive role in the expression of ‘meaning creativity’. The ‘follow through’ conative mode is characterised by an instinct to create patterns and seek a sense of order by systematically arranging and organising available material (Kolbe, 2013). This process is crucial to Wallas’ second stage of creative problem solving called incubation. As the name suggests, in this stage, the dilemma, question or problem is not consciously probed. In fact, here the unconscious or subconscious forces come into play. It seems that in this stage, the encoded information is reorganised to create new combinations. Creative individuals show unusual command over this reorganisation process (Spiro et al., 1987). They have an advanced meta-cognitive ability to differentiate between relevant and irrelevant data. Wertheimer (1945) had suggested that the skills required in problem solving, namely, breaking up the problem and reorganising the parts are equally applicable in the production of creative ideas.

The ‘quick start’ conative mode is characterised by a desire to innovate, improvise and deal with risky and uncertain situations (Kolbe, 2013). The Humanistic view also supports the contention that the ability to engage oneself in ambiguous and unpredictable situations is paramount to creative production (Rogers, 1961). Many researchers have shown that too much preparation or control can hamper the creative process, especially artistic creativity (Claxton, 1997; Koestler, 1964). Psychoanalytic thinkers such as Freud (1908), Jung (1912), Kris (1952) and Kubie (1958) also purported that creativity is not the result of purposeful deliberation. What incites and
gives momentum to a creative thought is unknown to the creator himself. More support comes from the fascinating concept of reactive creativity by Finke (1990), who found in his study that students were motivated more highly when they were presented with an unexpected problem, in a category that they could not choose. Those who were allowed to choose what category to work in, showed lower motivation levels. Thus, motivation as a reaction, rather than as a planned effort, seemed to work better.

The distinction that has been hypothesised between the conative aspects of novelty and meaning creativity in the present investigation is somewhat similar to Galenson’s typology of creative individuals. Galenson (2001, 2006) states that there are two basic types of creative individuals: (1) ‘Seekers’ who are aesthetically motivated experimentalists and (2) ‘Finders’ who are conceptual innovators. Seekers and finders differ largely in their approach to the creative process. Seekers avoid any type of preparation and start off without a clear goal in mind. Their methodology is marked by trial and error and a lack of criteria to define their final goal. On the other hand, finders have a clear outline of their final goal in mind and engage in meticulous preparation to achieve it. Therefore, it is safe to say that the present theorisation regarding the conative orientations of novelty and meaning creativity are on the right path, despite the fact that clear evidence from empirical data could not emerge, which might be due to the inbuilt bias of the test of conation in favour of the organizational setup, the context in which the test was constructed and is heavily used. However, further investigation is needed to bring about more clarity.

PERSONALITY AND CREATIVITY

The present investigation would be incomplete without some discussion regarding the creative individual. Going beyond the objectives of the study, the Five Factor Personality Inventory was used to address this issue. Correlational analysis showed a significant and positive relationship between many of the TTCT indices and openness to experience as well as conscientiousness. Similar association of openness to experience and figural creativity is available in the composition of Factor III, which has significant factor loadings on openness to experience and almost all figural creativity indices. Additionally, openness to experience also correlated significantly with the projective indices of ‘novelty creativity’.
A number of studies have outlined certain personality traits that appear to be consistent of creative people across domains such as broad interests, independence of judgement, autonomy and openness to experience (Barron and Harrington, 1981; Runco, 1984). While the trait openness to experience has been seen to correlate with creativity across domains (Kinney and Richards, 2007; Sundarajan and Averill, 2007), it is unclear if artists and scientists are open to the same kind of experiences or not (Baer, 2010), as seen in the present study as well.

Researchers are of the view that certain personality traits make the expression of creative ideas more likely by reducing the threshold for creative behaviour (Feist, 1998, 1999; Allport, 1937; Brody and Ehrlichman, 1998; Ekman, 1984; Rosenberg, 1998). Openness to experience has been extensively used to describe the creative personality (Mumford, Costanza, Threlfall, Baughan and Reiter-Palmon, 1993; Cattell, 1971, 1990; Ghiselin, 1952; Burch, Hemsley, Pavelis and Corr, 2006; Charyton and Snelbecker, 2007; Dollinger, Urban and James, 2004; Furnham, 1999; Gelade, 1997; George and Zhou, 2001; Perrine and Brodersen, 2005; Prabhu, Sutton and Sauser, 2008; Reuter et al., 2005; Soldz and Valliant, 1999; Wolfradt and Pretz, 2001; Wutrich and Bates, 2001). Helson (1999) claimed that openness is a ‘cardinal characteristic’ of creativity. Martindale (1989) explained this correlation between openness and creativity by stating that those who score low on openness to experience prefer to work with known and familiar ideas. They are less likely to be attracted to new information. Therefore, it is hardly surprising that people scoring high on openness are more likely to be creative. Open individuals are, by definition, more inventive and inquisitive, the characteristics of which are conducive to creativity (Feist, 2010). High openness is also related to reduced cognitive inhibition, which is facilitative for creative thinking (Peterson and Carson, 2000; Peterson, Smith and Carson, 2002).

Unlike the findings reported by researchers such as Feist (1998), Wolfradt and Pretz (2001), Hong, Peng and O’Neil Jr. (2014), etc., the current findings link creativity positively to conscientiousness. These findings find support in the work of many researchers who report creative scientists to be more conscientious (Kline and Lapham, 1992; Rossman and Horn, 1972; Schaefer, 1969; Wilson and Jackson, 1994).
To conclude, the findings of the current investigation reveal that while cognition plays an important role in both novelty and meaning creativity, the extent to which it contributes is markedly distinct for both contexts. Secondly, positive affect contributes clearly to ‘novelty creativity’, but definite answers regarding the relationship between ‘meaning creativity’ and affect could not be ascertained. Thirdly, while conation and motivation are crucial to the creative process, the forms and expression of conative instincts are different for both novelty and meaning creativity. While ‘novelty creativity’ requires a drive to strive for knowledge, ‘meaning creativity’ requires a certain level of comfort with ambiguity and improvisation. There is no ‘one size fits all’ doctrine when it comes to creativity (Simonton, 2004). In sum, it can be said that the present investigation has been successful in explaining the dynamics of the cognitive, affective and conative components of novelty and meaning types of creativity.

LIMITATIONS OF THE STUDY

Inspite of immense efforts, there remained some limitations in this study and thus we propose directions for future research. The use of under-graduate and post-graduate students may limit the generalizability of the results to diverse groups specifically and to the larger population in general. Thus, future studies may attempt to replicate the findings in more ethnically diverse samples covering varied socio-economic strata and professions. Given the limited sample in the study, this framework would benefit from further investigation of its applicability with other age groups and educational environments, as well as in other cultures. It is quite possible that cultural values may impact the role of variables such as affect, in the creative process. Studies such as these may also usefully employ other measures such as critical thinking, emotional intelligence, metacognition, etc. to understand the complex processes underlying creativity. Also, the current study did not incorporate gender differences, understanding which could provide more clues for understanding the dynamics of the creative process. Furthermore, future research may also continue to explore these potential mechanisms more directly. For example, in order to examine the causal relationships among these variables, researchers may conduct instructional experiments for further clarity. Finally, based on the research findings of the current study, further work may include related strategy development for improvement and/or enhancing creativity.
IMPLICATIONS OF THE FINDINGS

The above discussion of results derived from the present investigation sheds light on some major implications. The contribution of the present study is threefold. First and foremost, while prior studies have focused on an analysis of the role of cognitive, affective or conative factors singularly in creativity as a general trait, this study looked at a holistic analysis of these three factors in two types of content-based creativity, i.e., ‘Novelty Creativity’ and ‘Meaning Creativity’. Hence, this study provides a solid foundation from which various lines of investigation can proceed, specifically pertaining to the domain specificity of creativity, in terms of varying contributions of cognition, affection and conation related variables in both forms of creativity.

Secondly, following the current emphasis of policy makers on teaching innovation in schools through the curriculum as well as extra-curricular activities, this study has brought into focus that in the context of teaching and developing creativity in children, it is first important to identify their natural dispositions in a given direction, viz., toward ‘Novelty’ or toward ‘Meaning’ based content. Then groups and requirements, suitability based on the specific content of creativity modelling can be done taking direction from the findings of the present study, so that after a due course of time, these young minds are able to give creative expression to their basic potentials in the relevant context, which will be socially more useful and growth-promoting as well.

Thirdly, the policy implications of this research are interesting if not perplexing. Investment in research and development by governments and business enterprises may yield greater returns, keeping the findings of this study as a guiding light. Investment in innovation and creativity may not realize a sufficient return without also investing in other contributing factors such as intelligence, positivity, conative drives, etc. That is, it makes sense to invest in education and other activities that focus on such variables in the community in order to improve the pay back or return on an investment in creativity.