INTRODUCTION

“But unless we are creators we are not fully alive. What do I mean by creators? Not only artists, whose acts of creation are the obvious ones of working with paint of clay or words. Creativity is a way of living life, no matter our vocation or how we earn our living.” - Madeleine L’Engle (1982)

Creativity has rightfully earned the title of being a highly valued asset in current times. Scholars, scientists, researchers, philosophers, economists, educators, artists, etc. have come to value creativity in a way probably no other human attribute has been appreciated. This increasing interest in the phenomenon of creativity is understandable considering its vast and significant applications in the field of education, arts, science and technology, business, politics, etc. (Florida, 2002; Runco, 2007; Simonton, 1997).

The origins of the concept of creativity lie in the idea of divine creation. Ancient Greeks believed creativity to be a gift bestowed upon certain individuals by the Gods and Goddesses. This notion continued to prevail into the Renaissance period as well, when Giorgio Vasari (1550/1968) declared Michelangelo to be a God-sent genius to create beautiful art on earth. It was after the onset of the Enlightenment period that creativity began to be viewed as a more realistic, practical and utilitarian phenomenon. This shift can be seen in Galton’s (1869) definition of creativity as a natural ability comprising of a distinctive amalgamation of intellect, motivation and energy. After years of research and analysis, creativity is now viewed as a rational phenomenon (Simonton, 2004). 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).

Guilford (1950) was the pioneer who knocked the doors of psychologists during his presidential address to the American Psychological Association in 1950, to initiate scientific studies on creativity. He defined creativity as “the abilities that are most characteristic of creative people. Creative abilities determine whether the individual has the power to exhibit creative behaviour to a noteworthy degree. 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. To the psychologist, the problem is as broad as the qualities that contribute significantly to creative productivity. In other words, the psychologist's problem is that of creative personality.” While this description is less of a definition of creativity and more of a suggestion as to what a creativity scholar must study, nonetheless, it helps understand the early conception of the construct (Runco and Jaeger, 2012).

Probably the most widely quoted definition of creativity was given by Torrance (1974). He wrote that “creativity is a process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulty; searching for solutions, making guesses, or formulating hypotheses about the deficiencies; testing and retesting these hypotheses and possibly modifying and retesting them; and finally communicating the results.” Ausubel (1963) criticized Torrance’s conception of creativity stating that Torrance’s description does not differentiate between creativity as a specific and substantial ability but describes it as a generalized pattern of skills and traits. Nevertheless, this definition contributes vastly to an overall understanding of the concept. More recently, Blamberger (2015) stated that “creativity is experience; it is a knowledge that is dependent on the medium and the material of its expression, on social interaction and mainly on the occupational domain in which one becomes creative.”

There is a serious lack in agreement on what creativity is and how it should be defined (Sternberg, 1999; Marks-berry, 1963; Baker, Rudd and Pomeroy, 2001). To define creativity is a conspicuously perplexing task, probably because it is expressed in varied forms and comprises of an intricate interplay of multiple factors. At times it may occur in the form of a problem solving process and at other times it may be viewed as a form of self expression (Runco, 2004). A lack of congruity and agreement is noticeable among the perspectives of different creativity researchers. There is no ‘one size fits all’ doctrine when it comes to creativity (Simonton, 2004).

There is no dearth of words that are identical, equivalent, synonymous and seemingly indistinguishable from the term creativity, such as innovation, imagination, talent, genius, etc. Conceptually, every single one of these terms defines something that distinguishes them from creativity and from each other. Unfortunately few, if any, researchers attempt to clarify this distinction (Plucker and Makel, 2010). In a recent
investigation, Plucker et al. (2004) scrutinized a number of articles published in two major creativity related journals, namely, Journal of Creative Behaviour and Creativity Research Journal and found that only 40% of the articles categorically defined creativity. There are various issues that pose a challenge, when it comes to comprehensively defining creativity. First of all, creativity researchers are divided on the issue of what level of creativity qualifies to be labelled as genuinely creative. On one hand there is the unique and exceptional creativity of genius which has the capacity to transform an entire domain and is rather uncommon. On the other hand there is the more common, garden-variety or everyday type of creativity which is personal, and experienced by most people (Kaufman and Baer, 2004). The psychological processes involved in both may be completely different (Johnson-Laird, 1987, 1988).

Some researchers feel that only eminent levels of creativity must be studied for a pure understanding of the construct. This view can be illustrated through Csikszentmihalyi’s (1996) definition of creativity as “any act, idea or product that changes an existing domain, or that transforms an existing domain into a new one. Contrary to this, researchers like Runco (2004) emphasize that the ‘little c’ type of creativity, however immaterial it may seem, must never be disregarded, as an individual’s implicit creative talent is mirrored even in his seemingly insignificant fantasies and day-dreams.

Another major issue while defining creativity is to ascertain the locus of creativity. Does it lie in the person or process (Sternberg and Kaufman, 2010)? If one goes along with defining creativity as lying within a person, the additional complication of focusing on ability, personality or attitude arises. For example, if a person possesses the desired aptitude, but is unwilling to defy the norms, can he still be called creative. Next is the issue of defining creativity as a process. Divergent thinking is the most commonly associated with the creative process but it is incorrect to assume that it includes the entire workings of the creative process. There are additional processes involved such as selective encoding, selective combination and selective comparison (Sternberg and Davidson, 1983) and probably many more. Even after years of research, scholars have failed to come at an agreement in the ability-process debate. Some view creativity as an individual trait (James and Asmus, 2001) and some view it as a process (Jung, 2001; Van Hook and Tagano, 2002). There are also researchers
like Mishra and Henriksen (2013) who strongly criticize the focus on the creative process stating that it is unobservable and un-measurable. Some researchers like Plucker and Beghetto (2004), however, prefer to adopt a middle path and emphasise on collaboration between the two. They define creativity as an amalgamation of perceptible and imperceptible traits and operations. According to them, any examination of creativity is incomplete without deliberating on the process. Additionally, it is important to remember that a more talented person will employ processes different from those of a less talented individual. In other words, the process is an agent through which one can execute one’s creative talents and skills.

Aside from the person-process debaters, there exists another group of researchers who prefer to focus on the product, when assessing creativity. Seeing the myriad definitions of creativity it is fortunate and remarkable that creativity scholars agree on two main aspects while defining a creative product. First of all is novelty. To be classified as creative, work has to be new, original and markedly distinguishable from the work it is being compared to. Second is appropriateness. What is new must also serve a certain purpose and possess a level of quality that is judged by a group of experts to be useful, practical and utile (Sternberg and Kaufman, 2010).

Rothenberg (1990), a strong supporter of this view defined creativity as “the production of something that is both new and truly valuable.” Similarly, Mayer (1999) defined creativity as the creation of new and useful products including ideas as well as concrete objects. More recently Sternberg et al., (2002) stated that “creativity is the ability to produce work that is novel (i.e., original, unexpected), high in quality and appropriate (i.e., useful, meets task constraints).”

While most researchers agree on a common point when trying to define creativity, i.e., originality, defining originality is a mean task in itself. Novelty may be a seemingly straightforward construct, but it possesses varying shades and degrees too (Sternberg, Kaufman and Pretz, 2002). Some researchers limit originality in terms of statistical infrequency while others consider it a measure of unusual or unique creations (Runco, 2004). Novelty is generating something that did not exist earlier, atleast in that specific framework or pattern (Mishra and Henriksen, 2013). To label something as novel, it must surpass what exists or mere imitations of it. Novelty may be defined at three levels, i.e., the product may be original for (a) the creator, (b) a
limited group or (c) the society. Furthermore, novelty can be achieved in different
manners. One may recapitulate an existing idea in a unique way or push the limits set
in a current domain or assimilate varied advancements to produce something entirely
new (Sternberg, Kuafman and Pretz, 2002).

But ‘novelty’ does not imply effectiveness (Amabile, 1989, 1996; Oldham and
Cummings, 1996; Zhou and George, 2001), which brings us to the second aspect,
namely, appropriateness. Any arbitrary process will result in something original.
Even the word-salads produced by a psychotic are original. Therefore, originality is
vital, but must be balanced with fit and appropriateness (Runco, 1988). While
generating a novel product, the creator must acknowledge the specifications and
limitations of the context, without which the product, however unique, shall be
worthless. Bruner (1962) describes creativity as requiring ‘effective surprise’.
Cropley (1967) too insisted on creative products to be worthwhile. Similar ideas
were propagated by Jackson and Messick (1965), Kneller (1965), etc. Cattel and
Butcher (1968) and Heinelt (1974) even coined terms such as pseudo-creativity and
quasi-creativity to define products that are original but not appropriate. Another
construct closely related to ‘appropriateness’ is impact, but the two must not be
confused. Appropriateness and impact of a creative product are two separate. While
appropriateness is based on an agreement among experts, impact refers to the
domain-changing quality of the idea or product (Piffer, 2012).

While a consensus on these two aspects seems to be a big leap forward, there are
additional issues. The weightage given to either or both aspects tends to vary from
domain to domain. For example, novelty may be valued more than appropriateness
while judging a painter’s contribution but for a scientist or business, utility cannot be
compromised at any cost. This variation in emphasis may occur within domain as
well (Lubart and Guignard, 2004). Thus, inspite of wide agreement on the bipartite
definition of creativity, total unanimity still eludes us. Current researchers are
making a case for the addition of more criterion such as surprise (Simonton, 2012),
style (Besemer, 1998), wholeness (Mishra and Koehler, 2008), etc. Mishra and
Henriksen (2013) used the acronym NEW to define a creative product, i.e., to qualify
as creative, any product must be Novel, Effective and Whole.
Even if we do arrive at a consensus regarding what aspects truly define a creative product another issue crops up, that is, the vast scope of subjectivity in the assessment of creativity. Judgment regarding what is novel and appropriate can not only vary across persons, but also across time, situations and places as well (Moran, 2010). Researchers as early as Murray (1958) and as recent as Runco (2003) have raised doubts regarding the judgment of creative products. How do we decide who is the right person to judge a certain production? Runco (1996) believes that “personal creativity is manifested in the intentions and motivation to transform the objective world into original interpretations, coupled with the ability to decide when this is useful and when it is not” thus implying that the creator must be the judge of his own creation.

Most other researchers agree on relying on the judgement of experts of the particular field. For example, Stein (1953) commented that “creative work is a novel work that is accepted as tenable or useful or satisfying by a group in some point in time.” According to Csikszentmihalyi (1996), 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. What is unique and useful in the eyes of the creator may not find acceptance among the judges. It is probably due to this that Stein (1953) emphasized the need to discriminate between internal and external frames of reference. This ambiguity is not seen often in other psychological constructs such as intelligence (Sternberg and Kaufman, 2010).

On these lines, Preti and Miotto (1999) defined creativity “as the ability to create products or ideas which are original and which possess a strong social usefulness.” Plucker et al., (2004) went a step ahead and tried to resolve the person-process debate in their definition of creativity as “the interaction among aptitude, process and environment by which an individual or group produces a perceptible product that is both novel and useful as defined within a social context.” A more recent and organizationally-oriented definition was given by Zeng et al. (2011) who asserted that “creativity is broadly defined as the goal oriented individual or team cognitive processes that results in a product (idea, solution, service, etc.) that, being judged as novel and appropriate, evokes people’s intention to purchase, adopt, use and
appreciate it.” 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).

Fortunately, the issues and challenges that arise while attempting to define creativity has not deterred researchers from attempting to form a definition that can address all the problems discussed above. Gardner (1993) tried to incorporate as many aspects as possible when in his book ‘Creating Minds’ (Gardner, 1993) he stated that “the creative individual is a person who regularly solves problems, fashions products or defines new questions in a domain in a way that is initially considered novel but that ultimately becomes accepted in a particular cultural setting.”

The primary cause for the conflicting findings of creativity studies is the lack of an explicit and unanimous definition of the concept. Consequently, this field is marked by vast intellectual differences between its researchers and is also looked down upon by others for its ambiguity and lack of unity (Plucker and Makel, 2010). Creativity researchers have failed to come up with uniform answers because the questions they are asking are far from uniform. Undoubtedly, the ambiguity surrounding the construct of creativity makes it a formidable area of research, but ambiguity has its benefits as it allows for wider imploration and contemplation (Runco, 2007). While arriving at one common definition that includes all aspects of creativity seems to be an uphill task, confusion can be avoided if authors and researchers clarify their understanding of creativity and their findings are interpreted keeping their perspective in mind (Plucker, Beghetto and Dow, 2004).

**Theoretical Perspectives of Creativity: A Critical Appraisal**

Various researchers have tried to answer the complex as well as the not-so-complex questions about creativity. These answers embody different theories of creativity. Creativity theories can be broadly divided into two categories: (1) scientifically oriented theories and (2) metaphorically oriented theories. Theories that fall in the former category, attempt to provide empirical and applicable explanations. Theories that fall in the latter category, attempt to provide speculations and new possibilities related to the concept. While the value of scientific theories can certainly not be
undermined, they tend to get restricted to what is observable and provable and may thus ignore undiscovered phenomena. Metaphorically oriented theories, on the other hand, look into the hypothetical aspects that can help uncover unexplored possibilities. In other words, such theories provide a moderating counterbalance to the restricted perspective provided by scientifically oriented theories. But one must be careful to not get carried away in the formulation of metaphorically oriented theories. It is of utmost importance to stick to accepted methodologies, peer review, etc. and of course be open to scientific investigation and rectifications (Kozbelt, Beghetto and Runco, 2010). Following is a brief discussion of the earlier and more recent perspectives on creativity.

PSYCHOANALYTIC PERSPECTIVE

According to the psychoanalytic perspective, a creative individual is essentially a neurotic person who has successfully found a way to channel his/her unconscious conflicts. Freud (1908) stated that the sublimation of repressed desires and libidinal urges is the driving force behind creative behaviour. It is the emotions associated with repressed traumatic memories that are unleashed during a creative act. Creative behaviour is, in other words, a disguised and socially acceptable outlet for one’s inner turmoil. Freud further asserted that creativity is not the result of purposeful deliberation. What incites and gives momentum to a creative thought is unknown to the creator himself. In order to explain the creative process, psychoanalytic theories state that the unconscious mind is replete with images and fantasies, derived from the various experiences one has been through. When the individual contemplates a problem, several combinations of these images begin to form. Then the unconscious mind separates the potentially useful combinations from the others, thus preparing the stage for the production of a novel idea (Rather, 2001).

Jung (1912) agreed with Freud in the unconscious being the source of creativity, but disagree with him regarding the origin of creativity in intrapsychic conflict. He laid greater emphasis on the collective unconscious. He believed that creativity is an artist’s manifestation of archetypal images from the innermost expanses of his collective unconscious (Jones, 1999). In doing so, he implied that creativity is, thus, an expression of the longings of an entire race and not just of one individual. He distinguished between a psychological mode and a visionary mode of artistic
creation, the former relating to intentional production of a creative idea and the latter relating to an overwhelming flood of ideas that the unconscious forces upon the creator. According to Jung, both approaches hold immense potential to lead an individual to creative production (Jung, 1912). In Jung’s view, a creator has within himself a dyad or an integration of antagonistic aptitudes, one referring to his individual, personal life and the other referring to his impersonal creative potency and an amalgamation of opposites is crucial to the creative process.

Neo-Freudians such as Kris (1952) viewed creativity as a medium of enhancing reality with new perceptualisations. Kris stressed the significance of pre-conscious processes which occur when the control of the ego on one’s rational thinking is weakened. It is precisely at this point that associations between ideas and concepts are formed. In other words, Kris defined creativity as ‘regression in the service of the ego’. While a certain level of regression is observed in both creative and psychotic productions, a controlled balance between the id and ego (regulated by the ego) is what characterises creative thought. Another neo-Freudian Kubie (1958) added that neurotic distortions take place if the conscious mind inhibits creative expression by being inflexible and rigid in the use of symbolic functions. As a consequence, the unconscious mind will retaliate by seeking deeper refuge in delusions and unreality.

The most stubborn criticism of the psychoanalytic theories, especially Freud’s, is the lack of evidence on which its conclusions have been based. Freud’s explanation for creative behaviour may apply to some creators, but it is equally applicable to non-creative people as well. The psychoanalytic view of creativity as a compensation for unsatisfactory reality has also not found favour with modern day scholars. It is a reductionist approach that ignores many dimensions of the construct of creativity (Pope, 2005). Nonetheless, Freud’s work has influenced many scholars and helped frame the terms and limits within which the factors relating to creativity may be defined and studied.

**BEHAVIOURISTIC/ASSOCIATIONISTIC PERSPECTIVE**

From a behaviouristic perspective, creativity is the process by which an individual synthesises available material in relation to the current problem or stimulus (Bergquist, 1999). Additionally, when an individual finds a creative solution to a problem, it results in a considerable decrease in mental strain, which leads to an
operant conditioning of that response. Further, additional operant conditioning may be achieved when that behaviour is appreciated and rewarded. Skinner (1975), thus, posited that an individual learns a creative response because it makes him feel better or is rewarded for it.

While Skinner referred to the associations formed between behaviour and rewards as the driving force behind creative behaviour, Mednick (1962) spoke of associations among ideas to be critical to creative thinking. According to Mednick, creative insights are a direct result of associative processes. Two or more ideas may be associated because of functional and even acoustic relations between them. Individuals with flatter hierarchies of associations are likely to be more creative as they will have many strong associates for a certain concept as compared to less creative individuals (Freidman et al., 2003). Mednick argued that knowledge plays an important role in the creative process. According to him, creative production can be achieved through any one of three probable operations, namely, serendipity (associations formed by chance), similarity (associations formed by comparision) and mediation (associations formed by problem solving cognition) (Scott, 1999).

Behaviouristic perspectives are often criticised on the grounds that they fail to satisfactorily explain the behaviour of those creative achievers who seemed to have lost more that they achieved in pursuit of creative endeavours. But, what cannot be ignored is that they do lend immense predictive value to the study of creativity.

**GESTALT PERSPECTIVE**

According to the Gestaltists, creativity is a normal and natural phenomenon. It must be viewed as an act of self-expression, over anything else (Taha, 2007). Kohler (1929), Koffka (1935) and Wertheimer (1945) have related creativity largely to the concept of insight. Wertheimer (1945) explained that creative thought takes place in an un-isolated 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. According to the gestalt approach, creative production can only be made if the individual uses productive thinking and goes beyond what is known, opposed to reproductive thinking, i.e., merely reframing or reproducing what is known.
Wertheimer (1945) essentially stated that a creative outcome is the result of a process in which the individual generates a new gestalt in order to shift from an unstable or unsatisfactory situation to a stable one. But exactly how does a creator move from an unstable and non-preferred situation to a more complete and stable gestalt, has not been explained, making this theory untestifiable and conceptually lacking.

**HUMANISTIC PERSPECTIVE**

Proponents of the humanistic tradition project a positive view of human beings. Rogers agreed with Freud’s notion of creativity being characterised by a regression to a child-like state (Runco and Pritzker, 1999). According to Rogers (1961), three intrinsic conditions are involved in creativity. Firstly, openness to experience is a pre-requisite to counter inflexibility in the thought process, which is a major obstacle in creative endeavours. Secondly, an individual must be open to feedback from others, without forsaking confidence in one’s internal evaluations, which must be the source of the final judgement. Finally, the ability to explore concepts and engage oneself in ambiguous and unpredictable situations is paramount to creative productivity. Apart from these internal qualities, Rogers (1959) argued that external circumstances such as acceptance and support are also crucial to creative expression.

Maslow (1963) contended that an individual loses or forgets himself during the creative process. He described three types of creativity. The first category, primary creativity, is similar to the creativity described by psychoanalysts, i.e., welling from unconscious drives. But Maslow included cognitive and conative processes as well.

The second category, secondary creativity, refers to a process involving the use of higher thought processes such as analysis, discipline, hard work, etc. The final category, integrated creativity, refers to the fusion of primary and secondary creativity, what he calls self-actualising creativity. Such creativity is observable in renowned works of art, philosophy, scientific innovation, etc. Maslow attributes such creativity to self actualised individuals. According to Maslow (1963), what differentiates creatives from non-creatives is the absence of the fear of superseding societal norms.

The strength of the humanistic perspective, as Moustakas (1967) rightly pointed out, is in the implication that a creator lives in the present while simultaneously working on his future, in an attempt to shape his own life. Though interesting, the humanistic
perspective suffers from a number of drawbacks. Firstly, while general research has been carried out, clear evidence supporting this perspective is missing. Secondly, this view largely portrays existing society in a negative light and as a hindrance to the creative process, neglecting the fact that creative productions hold little or no value in isolation (King and Anderson, 2002).

**DEVELOPMENTAL PERSPECTIVE**

Most early developmental theories were derived from studying the lives of eminent creative individuals (Goertzel and Goertzel, 1976). Doing so, certain developmental experiences were seen to correlate significantly with expression of creative behaviour. For example, Albert and Runco (1989) assert that parents that allow a moderate amount of independence, expose their children to diverse experiences and are creative themselves are more likely to bring up children with pronounced creative potential. While some researchers have focused on parenting, there are others who focused on birth order and family structure (Gaynor and Runco, 1998; Sulloway, 1996). It has been seen that middle children tend to be more creative. This is probably because in most cases the eldest and youngest child receives more attention from the parents, because of which the middle child feels the need to resort to alternate ways to get attention, which are usually rebellious and revolutionary. This streak of rebellion is very likely to translate into revolutionary and creative outcomes in the individual’s adult life. Developmental theorists have also given emphasis to the role of play in creativity (Ayman-Nolley, 1999; Pearson, Russ and Cain Spannagel, 2008; Russ and Schafer, 2006). It has been observed that while permissive environments that allow for exploration and imaginative play help foster and promote creative behaviour, the relaxation and enjoyment that accompanies play is also crucial to enhance creative potential.

Developmental theories are considered to be the most practical of all creativity theories in the sense that they not only provide an explanation to creative behaviour but also help delineate the elements that can be incorporated in a child’s environment to promote creative thinking. While developmental theorists have provided some insightful observations, limiting creative development to childhood may limit our understanding of creativity. Developmental theories have largely been criticised for not taking into account a creative individual’s cognitive processes, motivations,
traits, etc. so while developmental theories explain the connection between a creative individuals developmental history and his/her creative performance in adulthood, it fails to provide a holistic picture of all factors that may influence the expression of creative behaviour throughout one’s lifespan (Kozbelt, Beghetto and Runco, 2010).

**ECONOMIC PERSPECTIVE**

Economic theories, also known as investment theories, provide a unique, fresh and practical perspective to the understanding of creative behaviour. Many researchers have given different economic theories of creativity. Rubenson and Runco (1992, 1995) gave a psycho-economic perspective on creativity which describes the macro-level processes and interactions involving the allocation of resources. They explained that similar to any other product, creativity also has its own market. If the market provides profits to certain behaviours, in other words, if a behaviour is in demand, it shall continue to occur. But if a certain behaviour results in losses or expenditure, one will refrain from it. In behaviouristic terms, profits reinforce behaviours and losses inhibit them. Rubenson and Runco defined the costs and benefits of creative behaviour in psychological terms. For example, the stigma of being considered as mentally unstable that usually accompanies creative expression, has the potential to inhibit a person from expressing original and unconventional ideas. On similar lines, Sternberg and Lubart (1992, 1995) defined creative behaviour in economic terms. They stated that when an individual invests in an idea which is unpopular, but then goes on to gain adulation for it, the profit that results from this process of buying low and selling high, fosters creative behaviour.

What works in favour of these theories is that they provide empirically testable hypotheses about creative accomplishments. Furthermore, they lend immense predictive value to the study of creativity. For example, a person who has invested a lot in his area of study and is hence high on expertise will be less open to creative ideas as compared to those who have invested less in their careers. However, Economic theories fail to satisfactorily explain the behaviour of those creative achievers who seemed to have lost more that they achieved in pursuit of creative endeavours.
STAGE COMPONENTIAL PERSPECTIVE

While some theories focus on the developmental aspect of creativity, others focus on the factors that foster or inhibit creativity, there are also some theories that aim to describe the underlying structure and nature of the creative process. Most theories that fall under this category divide the creative process into stages. One such famous and widely cited theory was given by Wallas (1926), who gave four sequential stages of the creative process. In the first stage, preparation, the individual defines a problem based on acquired knowledge. In the second stage, incubation, the problem is not worked upon at the conscious level. Successful incubation leads to illumination, where an idea or solution comes to the individual’s mind. Finally, in the fourth stage, verification, the individual tests the applicability of this idea.

Many researchers have questioned the sequential nature of Wallas’s model by stating that an individual is capable of cycling the stages multiple times before arriving at a conclusion. Nonetheless, this model has found immense support in creators’ own explanation of their creative process as well as in empirical research (Getzels and Csikszentmihalyi, 1976; Runco, 1994; Mumford, Baughman, Threlfall, Supinski and Costanza, 1996; Mumford, Reiter-Palmon and Redmond, 1994; Gruber, 1981; Epstein, 1990; Runco and Vega, 1992).

There are many other well-known stage models which explain the information processing perspective of creativity. Following is a brief summary of those models. One can observe a lot of similarity in the way the creative process has been broken down by the different researchers. From his analysis of inventors, Rossman (1931) concluded that a new invention is the end result of seven steps: becoming aware of a problem, analysing the problem, surveying available information, formulating candidate solutions, analysing these solutions, identifying one as a new idea and testing it to determine its applicability. Osborn (1953) gave seven steps of the creative process: orientation, preparation, analysis, ideation, incubation, synthesis and evaluation. Barron (1988) used an interesting analogy to explain the stages of the creative process. He likened it to the process of giving birth and suggested four stages: conception, gestation, parturition and bringing up the baby. The ‘universal traveller’ model of creativity (Koberg and Bagnall, 1991) proposes seven phases: accepting the challenge, analysing, defining, ideating, selecting, implementing and
evaluating. Cropley and Cropley (2010) combined multiple stage-approaches (Koberg and Bagnall, 1991; Barron, 1988; Wallas, 1926, Osborn, 1953; Arieti, 1976; Hadamard, 1945; Prindle, 1906, etc.) and gave a six stage model of the creative process: preparation, actuation, incubation, verification, communication and validation. Most of the existing models ignore the importance of the communication part of the process. It is significant as an idea or product can be labelled as creative only when experts or qualified judges objectively rate it as novel and appropriate (Dasgupta, 2004; Csikzentmihalyi, 1999).

More recent theories have, however, defined the creative process in terms of component mechanisms. One such theory by Runco and Chand (1995) gives a two-tiered componential model. In addition to Wallas’ stages, it comprises of a second tier which includes the effect of knowledge and motivation on creativity. On similar lines, Amabile’s componential model (1999) is comprised of three components, namely, domain relevant skills, creativity relevant skills and task motivation. Amabile has adopted a functional approach to creativity by studying the effect of antecedent and consequent factors on creativity (Brown, 1989). Amabile’s model though essential in the pursuit towards the broadening of the factors that must be looked into while studying creativity, has only focused on the observable and manipulative elements of a creative product. There is no explanation of the underlying process of creativity.

**EVOLUTIONARY PERSPECTIVE**

Some researchers have proposed theories of creativity that have been influenced by Darwin’s theory of evolution. One such theory was given by Simonton (1984, 1988, 1997, 1999, 2003, 2004) based on Campbell’s (1960) two stage model of creativity, namely, blind generation and selective retention and elaboration of ideas. According to Campbell, ideas are combined in large amounts, below one’s threshold of awareness. The individual then consciously selects the best of these combinations and elaborates on them to arrive at a creative outcome. Using this as a basis, Simonton gave a quantitative description of how creativity develops throughout life. According to Simonton’s theory, different individuals have different levels of creative potential. As one grows, this potential also develops. The assumptions of this model allow the researcher to model the inverted, backwards J-shaped trajectory
of creative achievement via a differential equation, using just four parameters, namely, initial creative potential, age, ideation rate and elaboration rate. This quantitative basis thus makes this model, arguably, the most rigorous of all creativity theories. Simonton’s theory has wide implications primarily because it includes multiple creativity related phenomenon (Weisberg, 2006).

Darwanian theorists claim that keeping in mind the complexity of the creative process, having little control over guiding the progress of their work is likely to benefit creators (Simonton, 1999; Weisberg, 2004). Furthermore, creators cannot be considered to be good judges of their own work (Simonton, 1977, 1984). Thus, the only way to increase one’s likelihood of success is to produce multiple ideas. In simple words, keeping all else equal, the creator with a larger pool of ideas has a higher probability of finding a better solution.

There is no doubt about the comprehensiveness of the evolutionary perspective, but there are some major drawbacks which cannot be ignored. Researchers have questioned the Darwanian notion of ideas being discrete, independent units, existing in a latent state, just standing by to be chosen by the creator. Furthermore, while explaining the creative process, it lays too much emphasis on the role of chance factors. Though recent versions of the theory have discussed the role of logical and evaluative thinking, it is still considered secondary to chance factors. This promotion of chance to causal status has been criticised by many. Finally, the absence of any specification of process particulars by Simonton leaves a large gap in the theory.

**TYPOLOGICAL PERSPECTIVE**

Postulating typologies of creators, who differ in a precise and logical manner is also one way of formulating a creativity theory that can help explain individual differences in creative personalities, working methodologies, career trajectories, etc. (Epstein, 1991; Epstein, Pacini, Denes-Raj and Heier, 1996; Gombrich, 1984; Isaksen, Lauer and Wilson, 2003; Kaufmann, 1979; Kirton, 1976, 1989; Martinson, 1995). One such recent theory by 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 are most likely to frustratingly struggle during the creative process. They 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. Seekers are seen to consistently develop and improve with age and are usually famous for a body of fairly good work rather than one outstanding achievement. Seekers usually achieve success in the later part of their lives since they spend their early years in acquiring technical and perceptual skills. On the other hand, finders have a clear outline of their final goal in mind and engage in meticulous preparation to achieve it. They are efficient and are known to produce few, but outstanding pieces of work. They give less emphasis to acquiring expertise or skill since their work is mostly a result of a radical change in the existing rules of the domain, resulting in productions very early on in their lifespan.

Galenson’s typological theory finds strong support in the subjective accounts of creators’ work methodology as well as in quantitative analyses of citations and auction data (Jensen, 2004; Kozbelt, 2008; Kozbelt and Durmyshava, 2007). Galenson himself collected ample evidence by studying the career trajectories and working methods of painters, sculptors, film directors, novelists, poets, architects, etc. While Galenson’s theory successfully brings together distinct levels of analysis into one theoretical framework, it is not devoid of its limitations. Firstly, while there is no denying the fact that some studies support the predictions of this typology, there are others that have failed to find any such evidence (Ginsburg and Weyers, 2006; Simonton, 2007). Secondly, subjective interpretation of data poses a major conceptual problem. Typological theorists tend to formulate classifications as dichotomous categories or endpoints on a uni-dimensional continuum instead of formulating categories that lie in a multi-dimensional space, thus leading to unreliable typologies. Nonetheless, typological theories provide creativity scholars with an interesting and promising direction for further research.

**SYSTEMS PERSPECTIVE**

This perspective probably entails the broadest theories of creativity. Systems theories are largely qualitative in nature and are based on the assumption that creativity stems from a complicated system of related sub-components. Systems theorists believe that conceptualising creativity as a single entity, disregarding the sub-components, will result in an incomplete and meaningless understanding of the concept of creativity.
The evolving systems theory is one such approach to creativity. Given by Gruber and Wallace (1999), this theory attempts to define the unique characteristics typical of creative people, with the use of comprehensive and elaborate documented case studies of eminent creative achievers (for example, Darwin). What differentiates Gruber’s approach from others is that instead of concentrating on the features of a particular creative act, he studied how those features relate to the context of the individual’s aims, knowledge, cognition, larger social forces, creative criterions, etc. in trying to understand fundamentally what creators do, the evolving systems approach aims to explain how dynamic, developmental processes unfold in complicated ways and contexts, over different time-scales.

Gruber (1981) provided certain foundational concepts that impart a structural framework to comprehend creative individuals. One such concept is that most creators use an ensemble of metaphors in their thinking and not just one dominant metaphor (as wrongly assumed by many researchers). A second concept is that of a network of enterprises, which refers to a system of goals that illustrates how a creative person may work on apparently varied topics and yet evolves a sense of relation between them.

The qualitative rigour and richness that such a theory provides works in favour of this approach. Used judiciously, this theory can aptly portray the bigger picture of a creative individual in a highly dynamic manner. But the theorists who follow this approach have enormous pressure to interpret the details of a large quantity of data available about a creator’s career. Hindsight based conclusions have a risk of being completely unrelated to what the creator was truly thinking or feeling at the given point of time.

Another systems theory, which provides an even broader view of creativity, was given by Csikszentmihalyi (1988, 1999). Instead of focusing only on the individual, it takes into account various other factors as well. Csikszentmihalyi reframed his research question to ‘where is creativity’ instead of the prevalent ‘what is creativity’ question. He posited that creativity emerges via three interrelated components and is not solely an intrinsic trait or characteristic. The first component is the domain or the knowledge that exists in the specific field of study at a given point of time. The second is the individual who obtains this knowledge and attempts to produce
modification in it. The third component is the field, that is, the other members and experts who also study the same discipline and hence judge what is creative. In saying that all these components decide what is creative, this theory plays down the role of intra-psychic processes and emphasises on collaborative creativity.

The major advantage of this theory is its conceptual richness. It recognises the contribution of extra-personal and socio-cultural factors, which are ignored by most other theorists. Thus it is useful in generating specific hypotheses about how culture, society and personal history can influence creativity. The multiple levels of analysis given in this theory provide a wholesome understanding of creativity in a manner that restricted trait based and quantitative theories cannot do. Csikszentmihalyi’s theory explicitly corrects the conception of creativity as only dependent on the creator (Pope, 2005). On the flip side, the highly quantitative nature of this approach makes it ambiguous and out of the reach of empirical research. Csikszentmihalyi’s theory is not grounded in methodological specifics, thus creating problem for intra- and inter-disciplinary discussions (Kozbelt, Beghetto and Runco, 2010).

Based on the above review of various perspectives, the gradual shift from metaphorical theories to empirical theories is evident. It cannot be said with absolute certainty which theory works better at explaining creativity. A true scholar of creativity must, as Kozbelt and his colleagues (2010) suggested, focus on pluralism, that is, contributions from different theories and their various conclusions should be combined to formulate an all-encompassing understanding of the construct of creativity. The only definite conclusion that can be derived for now is that there is a huge scope for research in this field, in terms of expanding current theories and formulating new and stronger ones to help better understand a concept as intriguing as creativity.

**Eastern Viewpoint about Creativity**

Western researchers have largely disregarded the Eastern perspectives of creativity, mainly because the Eastern viewpoint is seen to be accompanied by a touch of spirituality and so-called mystique. There are a few researchers like Simonton (2004) who feel that while demystification of creativity serves an important empirical
function, it has probably rationalized the construct too much, presenting creativity to be a more logical process than it actually is.

A major obstacle in the path of the Western-Eastern collaboration is a stereotype that has become popular since the early twentieth century. Western researchers believe that the Eastern culture, especially, Confucianism, hinders the development of creative ability because it lays more emphasis on conformity and harmony, instead of individualization and independence. Thus Easterners are more adept at making adjustments, rather than trying to bring about changes with creative ideas (e.g., Needham, 1956; Eckstein, Fairbank and Yang, 1960). Gardner (1989) expressed similar views in stating that the Eastern education system is not conducive to development of creative thought. He further said that while the Western achievements illustrate a revolutionary form of creativity, the East has displayed only evolutionary creativity (Gardner, 1993, 1996). Niu (2015) defends Confucian ethics which lay strong emphasis on diligence and self-reliance stating that such principles cannot and do not inhibit creative expression. She explains that this stereotype has originated from the fact that the forms in which creativity exists in the East are probably not valued or fully understood in the West, at least not as much as they should be.

Niu and Sternberg (2006) discussed the origins of the concept of creativity and found that early conceptions of creativity lie in the mystical tradition for both cultures. Inspite of a common divine attribution, fundamental differences exist between both conceptions. While the Western idea is of creation ‘ex nihilo’, i.e., creation out of nothing, the Chinese idea is of creation ‘in situ’, i.e., creation in context. While the Western tradition attributes all initial creation to God alone, the Chinese tradition suggests that the creator alone cannot be accredited for the creative process. Herein lies the concept of ‘co-creativity’ (Ames, 2005) or ‘contextual creativity’ (Wen, 2009) in which the creator and the creature (what has been created) continue to collaborate for further creations (Niu, 2012).

Viewing this comparison of early divine origins as irrelevant will be a grave error. Differences in the concept of origin have strong implications for the current theorization of creativity in both cultures. Based on the above discussion Ames (2005) listed some basic differences between the Western and Eastern perspectives
on creativity. Firstly, the Western tradition views the creator as an independent, self-sufficient agency. In contrast, in the Eastern tradition the creator and the creation function together, in a context, in a reciprocal manner. Secondly, while the Western tradition emphasizes originality, the Eastern tradition considers creativity to be insignificant unless the creator and creation can interact to continue the creative process even further, irrespective of how innovative the creation was. Thirdly, the creation is completely dependent on the creator according to the Western notions. In the Eastern notion, however, both share a dynamic relationship and this interdependence forms the basis of continuing creativity. Fourthly, the Western tradition talks only of the antecedents of the creative process, whereas Eastern tradition discusses it consequences (in terms of future creation) as well.

Expanding on the Confucian concept of contextual creativity Wen (2009) stated that being perceptive and receptive towards the environment or situation is crucial to the creative process. To be able to realize one’s creative potential, not only must the individual attempt to shape the environment, but must also be open to being shaped or influenced by the environment.

The Western conception of creativity as personal brilliance is dominant worldwide, but it is incompatible with the classical Eastern interpretation of creativity (Kakar and Blamberger, 2015). The Western theories largely project the individual as the seat of creativity, thus emphasizing research on the traits of a creative person. But the fundamental notion of creativity in Indian texts talks of transcendence from an individual’s personal self to be able to create (Kakar and Blamberger, 2015). Coomraswamy (1966) stated that according to the Indian view, an artist is a person, but not a personality. In other words, to be able to express creatively, one must transcend one’s individual traits. Even Chinese theories on creativity insist that creative products must have a larger influence on the society, rather than the creator himself (Niu, 2015).

No mention of specific personality traits can be seen in studies with Eastern traditional artists. According to one study with 155 painters from Rajasthan, there are five major sources of creativity. First is an intrinsic creative drive or an innate reserve of creative capacity. Second is participation in activities that promote discipline and inner searching. Third, is a psychological harmony achieved by
integrating the opposites that exist within oneself. Fourth is heredity and fifth is Eros (Kama) or the release of libido through sublimated expression in creative form (Maduro, 1976).

Furthermore, the Western view has often linked genius to extreme mental states such as mania or melancholy. Psychological conflicts are seen to be a source of creativity, thus making the creative process a therapeutic expression of one’s innermost turmoil (Jamison, 1989; Post, 1994; Kaufman, 2001). The traditional Eastern view, however, does not see the creative individual as erring, flawed or unstable. Ancient Indian texts describe creators as beings who are far from sensual excesses, calm, learned, sincere and charitable (Kakar, 2015). Similar findings were reported by Sundararaja (2004) who found Chinese artists to be less prone to psychopathology.

Western theorists are divided on the role of affect in creativity. Some researchers emphasise the role of positive emotions (Hirt et al., 2008) while others consider negative emotions to be more significant (Feist, 1993; Silvia, Kaufman, Reiter-Palmon and Wigert, 2011). Recent trends, however, have been towards a balance, an ability to regulate emotion, in short, emotional intelligence (Runco, 2007). The Eastern tradition has supported this view since the very beginning. According to Tagore (1922), 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 emotions would.

Another early Eastern idea that finds place in some Western theories is the idea that creative ability lies in one’s unconscious. This notion helps understand why most creators find it difficult to explicitly describe their creative process. This idea is not just popular in the Eastern tradition, but was widely accepted in the early Western theories as well, especially Freud’s. Modern theorists, however, prefer to steer clear of such ‘unobservable’ and intangible constructs (Kakar, 2015).

Differences about the conception of creativity have been observed in the views of non-researchers as well. For example, having a sense of humour and appreciation for art were seen to be related to creativity by subjects from North America, but subjects from Hong Kong gave no significance to such traits (Rudowicz and Hui, 1997). Similar results were reported in China and Taiwan as well (Rudowicz and Yue, 2000; Chan and Chan, 1999). In a similar study, Chinese participants considered
‘contributing to society’ and ‘inspiring others’ to be crucial to the creative process. On the other hand, such traits were missing from the descriptions provided by the American participants (Rudowicz, 2003). Basically, unlike the West, Easterners lay strong emphasis on the moral standards and ethical conduct in the creator’s persona (Niu, 2015).

Inspite of numerous differences, the Western and Eastern schools of thought 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 and work at preparing himself for the process, be it through education, training and/or character building (Niu, 2015).

Western theorists have largely failed to incorporate Eastern ideas into their work, and vice-versa, thus missing out on some crucial elements. But in more recent times, especially with the advent of global interactions and cross-cultural studies, Western researches are realizing the significance of Eastern ideas. For example, practices to develop creativity suggested by the Eastern tradition such as mindfulness and meditation are increasingly gaining acceptance in the West as well (Niu, 2015). Creativity is exceedingly being valued by the East and West alike. The competence and versatility associated with creative achievements benefit individuals, organizations and the civilization as a whole. Thus it is in the best interest of scholars and researchers to be open to perspectives other than their own, in order to arrive at an understanding of creativity that will open up paths for future development and progress.

**Issue of Domain Specificity vs. Domain Generality of Creativity**

Many questions have been raised regarding the nature of creativity. Is it a generalized trait, wherein a creative individual will achieve excellence, no matter which domain he is placed in? Or is it a domain specific skill, which guarantees success in limited areas. Even within a domain, the nature of tasks can be highly differentiated such as painting and sculpturing, which fall in the artistic domain but require vastly different skills (Lubart and Guignard, 2004).
A large body of research, especially studies following the psychometric tradition, adopts a domain general view of the concept. Researchers like Simonton (2010), Barron and Harrington (1981), Helson, (1999), etc. believe that various factors, dispositional traits and cognitive styles correlate with creativity across domains. What leads to achievements in one specific domain are the knowledge and skill that the individual acquires. Researchers like Root-Bernstein and Root-Bernstein (2004) agree that while the products generated in the artistic and scientific creativity domains are markedly different, the processes used to contrive the products are similar. Even Gardner (1993) who considers a singular classification of creativity to be an illusion, a myth, agrees that certain common personality dispositions and motives can be observed in the manner in which creative achievers envision and articulate ideas.

However, when discussing eminent levels of creativity, domain-specificity is the dominant view (Csikzentmihalyi, 1988a, 1990; Gruber, 1981; Gruber and Davis, 1988; Gruber and Wallace, 1999; Policastro and Gardner, 1999; Simonton, 1994; 1999, 1999a; Tardiff and Sternberg, 1988; Wallace and Gruber, 1989; Weisberg, 1999). But it is difficult to be absolutely sure of this specificity. In the rare cases where eminent levels of creativity have been achieved, it is nearly impossible to assess whether the creator can perform similarly in another domain. The primary reason for this can be derived from Hayes’ (1989) 10 year rule. Many researchers believe that it takes approximately ten years of practice and knowledge even for the extremely talented, to achieve creative excellence in any domain (Weisberg, 1999; Gruber and Davis, 1988). Therefore, expecting someone to invest ten years in different domains each, to see if they can be creative in every domain, is a methodology beyond application.

Even if creativity is domain specific, researchers are unsure regarding the cause of this specificity. Is it because of the nature of the construct or due to limited opportunities and practical limitations (Kaufman and Baer, 2004)? Moreover, researchers like Mithen (1996, 1998) correctly point out that evolution has blessed the human mind with the capacity to generate ideas across domains. Domain specific skills are not merely a cluster of abilities that do not interact with each other in multiple ways.
Based on a multivariate approach to creativity, Lubart and Guignard (2004) have concluded that creativity is partially generalised, partially domain specific and also task specific to a certain degree. Plucker and Beghetto (2004) opine that the specificity-generality division compels scholars to adopt an artificial dichotomy in the way creativity is conceived. It will be more reasonable to study the domain specific and domain general characteristics of creativity.

According to Stark (1965), the disagreement among researchers in defining creativity may be based in the differences between the contexts in which the process is occurring. He proposed a dualistic conception of creativity (followed in the current research as well), stating that creativity can be exhibited in two kinds of context, namely ‘novelty’ and ‘meaning’. The novelty type of creativity is analogous to the problem solving conceptualisation of creative behaviour. It is equated with breaking rules of the past and present, superseding norms, renouncing established methodologies, non-conformity, etc. and lays emphasis on statistical originality. The meaning type of creativity insinuates a more aesthetic form of creative expression characterised by ambiguous intra-psychic experiences. It is equated with being perspective, imaginative, artistic, etc. These two types of creativity roughly correspond to creativity in the scientific and artistic domains. Thus, on one hand, the novelty context is associated with action and performance, whereas the meaning context is associated with experience and consciousness expansion (Sandhu and Sandhu, 2014; Minhas and Kaur, 1983; Goel and Tung, 2013; Singh, 2015; Kaur, 2002). Both types of creativity, novelty and meaning, are independent of each other. The presence or absence of either kind of creativity does not affect the presence or absence of the other (Stark, 1968).

Empirically oriented psychologists prefer to go beyond the structural paradigms of theorists to delve into the dynamics of the creative process. In this context, almost all psychological constructs relating to the domain trinity, viz., cognitive, affective and conative, in varying forms of intellectual capacities, emotionality, temperaments and motivation remained in their focus, but in isolated forms and contexts. An overview of the so-far done empirical work in the area of creativity suggests that all three domains have certain specific and unique roles to play in the culmination of creative expression, within the same fields, or across fields. A brief overview of the existing scenario regarding these variables is as follows:
**Cognition and Creativity**

Creative cognition is basically an attempt to fathom the concept of creativity by concentrating on the underlying cognitive processes and how they collaborate in the production of new and relevant ideas (Finke, Ward and Smith, 1992; Ward, Smith and Finke, 1999). The psychological processes that are involved in human cognition are hierarchical in nature, at the apex of the hierarchy are the executive processes that conduct, modulate and synchronise the functioning of cognitive activities. Treffinger and Isaksen (Treffinger, 1985; Isaksen and Treffinger, 1985) proposed a list of meta-cognitive processes that occur during creative problem solving: (1) Sensing the existence of a problem; (2) recognising the problem; (3) probing the problem; (4) identifying the probable causal factors; (5) establishing a goal; (6) assessing the resources required for the solution; (7) judging the critical features of the problem; (8) redefining unique ways to use familiar resources; (9) evaluating the consequences of the action to be taken; (10) predicting the aftermath of the solution; (11) selecting the most beneficial solution out of all available options.

Intelligence and creativity have been studied for over a hundred years now (Sligh, Conners and Ewoldsen, 2005). These are two pillars upon which all major achievements and progresses made (and to be made) by mankind stand. In fact, the initial researches on creativity were conducted to ascertain whether creativity and intelligence were even two different constructs. It was in the 1950’s that Guilford asserted that creativity and intelligence are indeed two separate constructs and needed to be assessed separately.

A popular belief is that intelligence and creativity are positively correlated (Squalli and Wilson, 2014; Simonton and Song, 2009; Wodtke, 1964; Yamamoto, 1964, 1965; Sharma, 1972; Azmi, 1974). A recent study by Jauk, Benedek and Neubauer (2014) has shown intelligence to be important for creative achievement across various domains. Frequently, while studying the relationship between intelligence and creativity, researchers use academic achievement as a measure on intelligence. Contrary to the previously mentioned researches, MacKinnon (1962) found in his study on successful professionals (architects, writers, etc.) that creativity seemed to have little or no correlation with academic achievement. In fact, some studies show
that many highly creative individuals face trouble adjusting to the school and college environment (Cramond, 1995; Amabile, 1989).

Gardner (1994) proposed that instead of a single intelligence, creativity can be linked to a combination of multiple intelligences. He asserted that intelligence is a versatile assortment of eight different intelligences, creativity being the highest level of operation of these intelligences (Gardner, 1995). In his book *Intelligence Reframed* (1995) Gardner explained that creative individuals undoubtedly excel at certain intelligences, but an interesting finding is that most of them showcase a combination of at least two intelligences. For example, Einstein had excellent logical-mathematical intelligence, something that is seen in most physicists. But he also exhibited outstanding spatial capacity. Another example is of Freud, who as any good scientist possessed logical-mathematical abilities, but one can see the dominance of linguistic and personal intelligences in his work. Stravinsky is another example who is more famously known for his musical intelligence, but had exceptional artistic intelligence too. Another side to this story is that highly creative individuals more often than not, notably lack certain kinds of intelligences as well. For example, Picasso, a noted artist, severely underperformed at school. Freud, who gave outstanding contributions to the field of psychology, definitely lacked musical intelligence. But these weaknesses do not affect creators too much, they know where their strengths lie and pursue those fields to achieve excellence.

The extensive literature that has been amassed on the relationship between these two constructs clearly indicates that there is some relationship for sure and even similarities between the two constructs are discernible, but there isn’t one strong consensus, probably due to the fact that this relationship has been approached from so many different perspectives. Intelligence and creativity can overlap in some respects, but not others (Sternberg, 1999). Haensly and Reynolds (1989) summed up the relationship between creativity and intelligence stating that they are both complementary processes. While an intelligent idea can be appreciable, it is the creative idea that will be extraordinary.

The present investigation further delves into the construct of field independence-dependence which refers to the individual differences in the way people perceive the cognitive aspects of their experience. Why the relationship of creativity with field
dependence-independence is important is because a significant association between the two constructs shows that the approach with which a task is taken up strongly influences the outcome. In one study, Bal (1988) worked with a sample of 150 college students and found that field independence as well as academic achievement correlate significantly and positively with creativity scores. In a recent study by Miller (2006), participants were asked to prepare a collage each, which were then rated on creativity. It was seen that participants who received higher creativity scores, also scored high on field independence. Hence, creativity, from this perspective, can be defined as a form of thinking, for which cognitive style is crucial.

**Affect and Creativity**

The distinct categorisation of cognition and affect started in ancient Greece as two separate forms of knowing: reason and faith, respectively (Bruner, 1962). Plato (1952) said that emotions are to the mind as an unruly horse is to the charioteer, both mind and charioteer struggle to gain control. Freud (1908/1958) held the belief that creative individuals are not very different from children. Both develop fantasy worlds infused with affect and organise everything else in congruence with these fantasies. Even neurological evidence shows that the neural systems of emotion largely collaborate with our cognitive processes (Phelps, 2005).

Creativity researchers are divided on the influence that different emotions have on creative productivity. One school of thought favours the view that negative affect will encourage the individual to put in more efforts to find a novel and useful solution to problems. If this is valid, then it is safe to say that in such a situation, a positive mood can hinder the creative process by making the individual complacent (George and Zhou, 2002; Martin, Ward, Ache and Wyer, 1993). Butcher and Niec (2005) conducted a study in which they observed children at play and rated them in terms of affect. These ratings were compared with parental ratings of creativity. Results showed a significant relationship between negative affect and creativity. Other researchers like Yang and Hung (2015) have reported similar findings. George and Zhou (2002) gave an interesting analysis on their study with 67 industrial designers. When an individual identifies an unresolved problem and feels the need to find a solution (be it for intrinsic or extrinsic rewards) and is unable to do so easily, then the negative mood generated in this process will definitely be a predictor of
creativity (Martin, Ward, Ache and Wyer, 1993). On similar lines, Akinola and Mendes (2008) found that the negative mood elicited by social rejection benefits creative production.

On the other hand, there is another group of researchers who support 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 (Boden, 1990; Jamison, 1993; Weisberg, 1994, Vosburg, 1998). A significant correlation between positive affect and creative performance was observed in employees working on potentially creative products (Amabile, Barsade, Mueller and Straw, 2005). Murray, Sujan, Hirt and Sujan (1990) provided evidence showing that when experiencing positive emotions, individuals perceive more similarities and differences in varied concepts, qualitatively and quantitatively.

The only conclusion that can be drawn from years of research on the affective component of creativity is that negative moods are not always harmful and positive moods are not always beneficial for the creative process and vice-versa. It has been seen that the thinking strategies employed by those in a negative mood are different from those in a positive mood. Different for sure, not better or worse. Both positive and negative affect can lead to generation of creative ideas, though the path followed and nature of the idea may be different (Spering et al., 2005).

**Conation and Creativity**

While cognition refers to what one knows and affect refers to what one feels about it, conation refers to how one will act using this information. As and how creativity invades every aspect of our lives, such as arts, business, science, education, etc. it becomes more and more important to first of all identify what motivates people to persist in creative endeavours and secondly, to organise their activities around those motivators in a manner that encourages creative behaviour (Amabile, 1997). For at least five decades, questions about what drives individuals to take up and pursue creative endeavours have been addressed by various psychologists (for example, MacKinnon, 1962; Ivancevich, 1977; Amabile, 1983; Csikszentmihalyi, 1996; Dollinger, 2003, etc.). Creative individuals often face disheartening and intimidating
challenges. Sometimes, to achieve success, they need to patiently pursue their goal for years together. In the process, they may have to let go of comforts and rewards. Such dedication requires a powerful and resilient will or drive (Hayes, 1989). According to Berry (1996), “conation has to do with our volition, the way we strive, the effort we put into tasks, our natural tendency to do things.” Osborn (2008) differentiated between creative talent and creative ability in terms of this drive. He said that mostly all individuals possess a certain degree of creative talent, but it is utilised only by those with an internal drive to do so.

In a two-level model of creative thinking given by Runco and Chand (1995), while the first level comprised of discovering the problem, ideation and assessment, the second level comprised of knowledge and motivation. Unlike the components of the first level, knowledge and motivation do not control the creative process, but they contribute to it considerably and are in fact crucial to creative thinking. Mehr and Shaver (1996) divided their sample into two groups, a high creativity group and a low creativity group. They then compared the goal structures of these groups across situations, in four categories: person, process, situation and product. Only 34% reported their motivation to be product related. The high creative group made more use of all four goal structures and gave more importance to person and less to product. In other words, they were motivated by how the activity reflects on them. The low creative group gave more importance to the product. Overall, motivation levels were also seen to be higher in the high creativity group.

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. A motivated individual also sets high standards for oneself, thus being able to evaluate one’s own work critically and objectively.

Explaining the role of intrinsic motivation in the creative process Amabile (1983) stated that firstly, it helps keep up the efforts required to acquire the skills and knowledge needed to generate creative solutions. Secondly, it helps cultivate an attitude that prioritises the task over everything else. Sundgren et al. (2005) also correlated multiple independent variables to intrinsic motivation and creativity. In
one study Erbas and Bas (2015) found intrinsic goal orientation to be the most significant predictor of mathematical creativity among a group of ninth grade students.

The popular view is that extrinsic motivation inhibits intrinsic motivation and creativity. In an interesting study by Joussemet and Koestner (1999), girls (ages 4 to 17 years) were asked to complete two tasks: (1) coming up with themes for a gymnastics gala and (2) a drawing task. The sample was divided into two groups. The first group was told that they shall be rewarded after the first task, if they do well. The researchers reported that the performance of the reward-expecting group was significantly lower than the control group, for the first task. Additionally, those who received rewards after the first task, drew pictures that were judged to be less creative than the rest of the participants. Why and how extrinsic motivation inhibits intrinsic motivation can be explained using Kelly’s (1973) ‘discounting principle’. In most situations, individuals are unable to recognise their own motivations. Therefore, when both intrinsic and extrinsic motivators are present, one tends to give more importance to external, rather than internal factors. Nevertheless, it is now a recognised fact that in certain situations, expectation of a reward or evaluation can propel an individual to perform better and more creatively (Harackiewicz, Abrahams and Wageman, 1991; Jussim, Soffin, Brown, Ley and Kohlhepp, 1992).

The nature of the constructs of conation and creativity is such that studying their relationship and the implications of this relationship is bound to be a complex and arduous challenge. Amabile (1990, 1996) agreed and stated that it is one’s level of motivation that indicates what one can do and what one will do. An individual cannot and will not undertake a creative activity if not duly motivated, regardless of the presence of knowledge or talent.

An intriguing observation that follows the above analysis of existing literature is that in no study have all three dimensions of behaviour been addressed as experientially unified, especially in the context based expression of creativity. Additionally, it has also been observed that even when focusing on one aspect of this trinity, the results of various studies have been equivocal or ambiguous, to say the least. Hence, looking at these grave limitations in the existing body of empirical research, it was decided to simultaneously focus on the cognitive, affective and conative variables in the present
investigation. Another significant point in the plan of this investigation is that a broad conception of creativity, in the form of two contexts as suggested by Stark (1965) will be taken into account.

**Need of the Study**

For the longest time, creativity was considered to be the prerogative of the divine. Today, the tables have been reversed. Humans hold the capacity for creativity; to the extent that God is a product of our imagination (Csikszentmihalyi, 1996). In the present scenario, creativity has been accredited with being a potent force in molding human civilization. Inspite of immense historical support, studying creativity has never been considered as crucial as it is today (Mishra and Henriksen, 2013).

Creativity is the ability to invent and develop new and original ideas. It is a natural tendency in every individual, which expresses itself to varying degrees. For many people, creativity seems mysterious and out of reach - a gift given to some people and not to others. Others strongly argue that it is an understandable process. Understanding this process is not just useful, it has become extremely important. The psychological study of creativity is essential to human progress. If strides are to be made in the sciences, humanities, arts, education, etc. we must arrive at a far more detailed understanding of the creative process.

Every school of thought in psychology has its own explanations for how the creative process occurs and why do individual differences exist. Each perspective has something of value which must be ingrained in research, to have a comprehensive view of the concept. While some research has been carried out linking creativity with variables like personality, intelligence, motivation, etc., most studies lack a comprehensive analysis of factors associated with the holistic conception of creativity. This specialisation of research is an artificial and convenient method of studying a construct. An overview of all the perspectives suggests that all the three components of behaviour, namely, cognitive, affective and conative are involved in the operations of creativity, and interact in multitudinal ways. Researchers have attempted to isolate the three time and again, but it has proven to be futile. Associations and overlaps between the three facets are hard to avoid. 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 for all fields, in terms of its processes vis-à-vis products. In this context, Stanley Stark’s (1968) profound dual conception of creativity is a satisfactory portrayal of content-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.

**Objectives of the Study**

To study the association between

2. Affective component and Novelty & Meaning creativity.
3. Conative component and Novelty & Meaning creativity.

To assess the contribution of

5. Affective component in Novelty and Meaning creativity.