INTRODUCTION

Being creative is seeing the same thing as everybody else but thinking of something different (Ian & Andrew, 2000). Creativity may be defined as the ability to produce new forms in art or mechanics or to solve problems by novel methods. Torrance (1967) defines creativity as the 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 them, and finally communicating the results. According to Boden (2004) creativity is the ability to come-up with ideas that are new, surprising, and valuable. He used ‘idea’ as shorthand, including all – it can be a concept, a poetic image, a scientific theory or even a particular form of taxation all of which are commonly called ideas. But it can also mean a style of painting or dancing, a way of building a bridge or skinning a cat, a millinery design, a cooking recipe, a recipe for home-made bombs or even a plan for delivering them to maximum effect. Sternberg and Lubart (1999) maintain that “creativity is the ability to produce work that is both novel (i.e. original, unexpected) and appropriate”. The term ‘creativity’ means the production of effective novelty (Cropley, 1999; Lubart, 2001; Mumford, 2003; Sternberg and O'Hara, 1999). Thus for creativity to be manifest, the qualities of both novelty and usefulness must be expressed. Runco (2007) quoted names of several authors who define creativity as involving the creation of something new and useful. According to the National Advisory Committee on Creativity and Cultural Education, UK (NACCCE, 1999) creativity processes have four characteristic:

1. It is imaginatively.
2. It is purposeful.
3. It produces something original.
4. And finally, it has value.

Amabile (1996) states that creativity is the production of novel and useful idea(s) in any of the domains. In order to be considered creative, a product or an idea must be different from what has been done before. Few creativity theorists hold the
strong notion that a creative idea must be completely unique. But the product or idea cannot be merely different for difference’s sake; it must also be appropriate to the goal at hand, correct, valuable, or expressive of meaning. She maintains that innovation is the successful implementing of creative ideas within an organization. She also states that it is important to consider what creativity is not: a) eccentric personality – truly creative work is not only novel; it is also appropriate. Moreover, it is much more useful to think of creativity as arising from a particular behaviour and resulting in a particular product or idea – rather than thinking of creativity as a quality of a personality (which means that whatever a “creative person” does must be creative). b) Art (or the Arts). Creativity is novel and appropriate behaviour in any domain of human activity from business management to scientific discovery to fiction writing to child-rearing to social interaction to painting and so on. c) Intelligence – Intelligence contributes to creativity up to some extent but research shows that there is much more creativity than just “smarts”. Above moderate IQs there is no correlation between intelligence and creativity. d) Good – Novel and goal appropriate behaviour can be applied to evil and destructive ends just as well as they can be applied to good, responsible, and constructive ends. Osborn (1948) says our thinking mind is mainly two-fold – “One is judicial mind which analyzes compares and chooses, and the other one is creative mind which visualizes, foresees and generates ideas”. Judgment keeps imagination on the track. Imagination not only opens ways to action, but also can enlighten judgment. Lanier (1991) states that creativity is an extrinsic and intrinsic response in which humans value an object and an event for its sake and consequence.

1.1. HISTORICAL SKETCH OF CREATIVITY

There is a lot of mystery regarding the concept and origin of creativity. Some believe that creativity is magical, mysterious, or linked with madness. These myths have their basis in past. First from the point of view of the Greeks and Roman as an act of divine inspiration, then later as a unique gift from heredity or special talent.
1.1.1 GOD’S GIFT OF GENIUS’

The earliest thinkers stated creativity as a gift from God (or the gods). The Greeks had Homer’s poetry that supports the idea of the bicameral mind. According to this view, the mind had two chambers one of which was for the gods to provide original insights and inspiration. Five hundred years ago, in English and European culture, the answer quite simply, was that new ideas come from God (Pawson, 2003). All creative thoughts came from the gods or through the mediation of a muse. The other was reserved for humans to translate or express this inspiration into words or deeds. This point of view is exemplified in Homer’s tales in which the characters could accomplish great acts, but only as directed by the gods. In Greek mythology, there are nine muses-goddesses who helped inspire those mortals who would attempt to be creative in the arts or sciences. There were initially three muses – melete (muse of Practice), Mneme (muse of Memory), and Aeode (muse of Song). And finally these three muses were expanded to nine. These nine muses could easily be re-read as nine general thematic areas (Dodds, 1951 and Stein, 1983). Feist (1999) used the term “domains of mind” and has proposed seven domains. Gardner (1999) has proposed eight intelligences, although they are usually interpreted as aspects of intellectual ability, they serve areas of creative achievement as well (Gardner, 1993).

1.1.2 GIFTEDNESS AND EMINENCE

Although there is certainly evidence that people produced creatively in the Roman Era and the Middle Ages, it was the Renaissance and the beginning of humanism during which creativity was considered more of a human characteristic. The early investigation into creativity as a human characteristics began during the eighteenth century. The major focus was on understanding the nature of giftedness and eminence. The major thrust was to explain creativity as an inherited gift. Couger (1995) cites the Bible as evidence to creative problem solving by recalling that as early as Moses leadership was engaged in when 500,000 Israelites were taken through the Sinai desert. Sternberg and Lubart (1999) found the origin of creativity in their research on spirituality. Many people seem to believe, as they do about love, that creativity is something which just doesn’t lend itself to scientific study, because
it is a spiritual process. Hausman (1976) provides a historical background of creativity immensely: - Plato described inspiration (a catalyzing factor in creativity behaviour) as a way to generate alternative (within a “naturalist” context). Aristotle embraced creativity in an artistic context whereas creativity is seen as part of natural laws and not for difference between “creation” and “imitation”. His theory displayed that creative actions are directly dependent on “spontaneous activity” through the conscious mind and Francis Galtan regarded creativity as the result of prepotency. He used the term “genius” in line with the creative person, and stated that both contain talent qualities that flow from generation and are thus inherited. Duff (1767) was one of the first authors to write about creativity stating that imagination, judgment, and taste were the qualities of creativity. Duff argued that talent and creativity were different abilities.

With regard to the origin of creativity research, it is widely believed that the modern age of creative research began with Guilford’s presidential address in 1950 to the American Psychological Association (APA). In the lecture, he argued for the limitations of intelligence tests and his investigation of divergent thinking (Mayer, 1999; Craft, 2001). On different lines, creativity research has been boosted up over the past 60 years.

1.1.3. THEORIES OF CREATIVITY

1.1.3.1 PSYCHOLOGICAL PERSPECTIVE OF CREATIVITY

Psychoanalytic approach

Psychoanalytic theory proposes that creativity grows from unconscious drives or creativity is a by – product of primary process. Freud takes a pathological view of the creative process. He felt that only unhappy people experience of day-dreams and fantasies which are an integral part of the creative process. He maintains that “Unsatisfied wishes are the driving power behind fantasies; every separate fantasy contains the fulfilment of a wish, and improves an unsatisfactory reality” (Freud, 1908). To Freud, there was a great similarity between neurosis and creativity, and both originated in conflicts stemming from wish fulfilment and biological drives (Freud, 1908)”. According to Kris (1952) the use of primary process in creativity is
“a regression in the service of ego.” Jung (1963, cited by Arieti, 1976) elaborates on creativity by further dividing artistic creativity into two categories viz. psychological art, and visionary art. It is psychological art which appears to be generated by primary process.

**Behaviouristic approach**

This school of psychology believes that a person is not the initiator of the creative act, rather a focal point where environment and genetic forces come together to have a common effect. This does not mean that there is no creation but in the sense that the product is new but the autonomy, the volition of the perceived creative agent is suspect. Watson (1973, cited by Frager, Fadiman, 1984) stated only what is observable is appropriate for scientific study. Creativity, thoughts, and emotions are unobservable internal processes; therefore, behaviourism is unable to explore the processes themselves.

**Association approach**

This theory states that creativity results from the number and uniqueness of association among ideas (e.g. Mednick, 1962; Guastello et al., 1992). Mednick (1962) developed Remote Association Test (RAT) assuming that creativity employs combination of two concepts in a new way. He further, extended upon the idea that remote association of two very different ideas would be more creative than combination of two similar ideas. He proposed two types of remote associations viz., a) steep association hierarchy, association between similar concepts and b) flat association hierarchy, association between largely different ideas.

**Gestalt approach**

According to gestalt psychology creative thinking requires conscious restructuring of situation or a problem, and such restructuring allows new insight to emerge (e.g. Wertheimer, 1945; Kohler, 1969).

**Perceptual approach**

This theory asserts that creativity requires perceptual openness “which allows an object to be approached repeatedly from varied perspectives”. (Schachal, 1959).
**Humanistic approach**

Humanistic psychology proposes that creativity exists when individuals allow themselves to be open to experience, to evaluate experience and to toy with elements and concepts (Rogers, 1959; Maslow, 1959).

Creativity is a healthy part of human being. This view of human nature – conscious, self-directed, self-actualizing, healthy process distinguishes humanistic psychology from psychoanalytic and behaviouristic psychology (Maslow, 1963). He describes creativity in three categories.

a. Primary creativity describes creativity which proceeds from the primary process, as does psychoanalytic theory, but Maslow includes cognitive and conative processes in addition.


c. Integrated creativity – this creativity joins the primary and secondary creativity. It is the source of the great works of art, philosophy and scientific discoveries and the same is also the characteristics of the lives of self-actualized, healthy human beings.

According to May (1975) the ability to encounter life in its fullest and engage with that part of it which is just beyond our senses is a prime characteristic of the creative act, and individual. He maintains that “for the unconscious which obtains in creativity is not the superficial level of objectified intellectualization, but an encounter with the world on a level that undercuts the subject–object split.” Creativity is the encounter of the intensively unconscious human being with his or her world and the same is maintained by Maslow (1963) that during the creative encounter the individual is self-forgetful. Thus, becoming totally immersed in the present, the individual merges with the encounters and the subject-object split disappears.
Cognitive approach

This theory states that creativity proceeds through stages of advancement similar to Piaget's stages of intellectual growth (e.g. Feldman, 1974). There are different viewpoints of Cognitive Process Creativity.

Creativity as a function of a cognitive process is demonstrated by Osborn (1953), Wallas (1926), Koestler (1964), and Guilford (1959). The term cognitive process means a volitional mental operation that can be learned in much the same way as solving a mathematical equation or speaking another language.

1st Viewpoint

Osborn (1953) developed the two-mind theory of creativity. Each person has two minds. The Creative mind and the Judicial mind.

2nd Viewpoint

According to Poincare (1906) the creative process is a 'black box' phenomenon which shows how an individual may try to use the subconscious, but doesn't provide enough information about its inner workings.

3rd Viewpoint

Koestler (1964) developed his views on creativity from the study of humour, literature, and biology. He defines creativity as the juxtaposition of two self-consistent, but habitually incompatible frames of reference in the physical, psychological, or social world. Koestler calls this as bisociation. Bisociation means creativity results from the intersection of two quite different frames of reference. This is the essence of creativity.

There are two types of bisociative creativity: Associative Routine or Habit and Originality.

4th Viewpoint

Guilford's (1959) model of intellect describes several types of thinking functions. Certain combinations of those functions underlie creativity. The model is composed of five kinds of operations and four kinds of material content that, when combined, result in six classes of products.
Models of Creative Thinking Process

Areiti (1976) mentioned eight models of the creativity in his book “Creativity: The Magical Synthesis”. These models represent a piece of creativity that how creativity proceeds and how creative ideas come about. These are: The Wallas’ Model for the Process of Creativity (1926)

1. Preparation (definition of issue, observation, and study) 2. Incubation (laying the issue aside for a time) 3. Illumination (the moment when a new idea finally emerges) 4. Verification (checking it out)

Barron’s Psychic Creation Model (1988)

1. Conception (in a prepared mind) 2. Gestation (time, intricately coordinated) 3. Parturition (suffering to be born, emergence to light) 4. Bringing up the baby (further period of development)

Rossman’s Creativity Model (1931)

1. Observation of a need or difficulty 2. Analysis of the need 3. A survey of all available information 4. A formulation of all objective solutions 5. A critical analysis of these solutions for their advantages and disadvantages 6. The birth of the new idea the invention 7. Experimentation to test out the most promising solution, and the selection and perfection of the final embodiment

Osborn’s Seven-Step Model for Creative Thinking (1953)


The Creative Problem Solving (CPS) Model (Parnes, 1992; and Isaksen and Trefflinger, 1985)


Koberg and Bagnall’s Universal Traveler Model (1981)

1. Accept the situation (as a challenge) 2. Analyze (to discover the "world of the problem") 3. Define (the main issues and goals) 4. Ideate (to generate options)
5. Select (to choose among options) 6. Implement (to give physical form to the idea) 7. Evaluate (to review and plan again)

A Model for Creative Strategic Planning (Bandrowski, 1985)


The common theme of all these models of creativity involves – finding/facing some need/challenge, gaining relevant information, searching for the relevant and appropriate solutions and putting them in hierarchy according to their appropriateness as per need/challenge, and finally applying the obtained solution which best suits for the need/challenge at the hand, checking if the need/problem has been fulfilled/solved and if not, re-assessing the problem and finding new solutions and so on.

**Psycho-Social approaches**

*Investment Theory of Creativity*

This theory has been proposed by Sternberg and Lubart (1991,1995) which states that creative people are those who are willing and able to “buy low and sell high” in the realm of ideas. Buying low means pursuing ideas that are unknown or out of favour but that have growth potential.

According to this theory, creativity requires a confluence of six distinct but interrelated resources: intellectual abilities, knowledge, styles of thinking, personality, motivation, and environment. In fact, levels of these resources are causes of individual differences.

*Amabile's Componential Model of Creativity.*

Amabile (1983, 1996) developed this model within social context which explains the social influences on creative behaviour. According to this model creativity is the creative production that emerges in a five step process: problem or task identification, preparation, response generation, response validation and finally
outcome evaluation. Further, the process interacts with task motivation, domain-relevant skills and creativity relevant skills.

*Csikszentmihalyi's Systems Model of Creativity*

According to this model, creativity can be best understood as a confluence of three subsystems (Csikszentmihalyi, 1999). These three subsystems are: Person (genetic makeup, talents, experience), Cultural system (domain-knowledge, tools, values, practices), and Social system (field-community of practice and gatekeepers).

*Boden's Model of Creativity*

According to Boden (2003) some people repeatedly produce ideas that are regarded as highly valuable and which, so far as is known, no-one else has ever had before. (They are "historically" creative, or H-creative.) Most people, by contrast, produce only moderately interesting ideas, many of which are already known by other people even though they are new for the individual concerned. (They are "psychologically", or "personally", creative: P-creative). Boden (2004) proposed that there are three types of creativity viz., combinational, exploratory, and transformational creativity. They are distinguished by the types of psychological process that are involved in generating the new idea.

**The information processing approach**

The information processing theorists (Newell et al., 1962) believe that human thinking process can be simulated as in information processing in computer programs.

**The mental illness approach**

The proponents (Briggs, Eisemman, Goodwin, Jamison, Richards, and Martindale) of this theory state that some type of mental illness is actually necessary in order for people to be creative, even if that illness is mild. Bipolar and manic-depressive syndrome are two mental illnesses specifically given as examples of this theory (Rzadkiewicz, 2009). But some thinkers argue that mental illness interferes with creativity, whereas others say that some highly creative people do suffer from some form of mental disorders.
The Psychoticism approach

Eysenck (1993) proposed that highly creative individuals possessed a quality termed “psychoticism” a disposition for psychotic tendencies. Further he maintains that these psychotic tendencies were the foundation for creative personalities.

The addiction approach

This theory states that addiction, for example, to drugs and/or alcohol, contributes to and even causes creativity (Lapp et al., 1994). But this theory has not got support except from independent researchers and some creative individuals who were suffering from addiction problems.

1.1.3.2 SOCIOCULTURAL PERSPECTIVE OF CREATIVITY

We don’t live in socio-culture vacuum. We affect culture and get affected by culture. Whiten et al. (2007) found that there is a strong correlation between human creativity and culture. The human mind has developed as an organism that is radically influenced by cultural opportunities and environmental demands, which are experienced during the life of the individual (Howe, 2001). Tomasello (2001) has made a distinction between human learning and animal learning i.e., primitiveness and accumulation. Primitiveness explains that there are certain animals that can learn certain concepts but can not pass on to their offspring the same knowledge whereas human beings have the ability to pass on the learning and knowledge to their offspring and that can be carried on to next generation this is what he calls the accumulation. The idea is that culture affects individuals need to make it grow through a process of accumulation of knowledge and creation of new and useful things and transmission of the same. In this way, culture affects the nature of creativity or the concept of newness. In cultural settings newness is a relative term i.e. the idea should not be known earlier. The originality of ideas in creativity research is often measured in terms of what ideas are common in the culture of the creator (Ward et al., 2002).
Process Model of Creativity

This model explains that a fruitful innovation involves one or more repetitions of the following three stages: (i) authoring new ideas; (ii) selecting, editing, and marketing new ideas; and (iii) acceptance of the new ideas in the market.

1.1.3.3. NEUROPSYCHOLOGICAL PERSPECTIVE OF CREATIVITY

It is difficult to understand the neurobiology of creativity. Heilman et al. (2003) addressed in the article “Creative Innovation Possible Brain Mechanisms” that “creative innovation might require co-activation and communication between regions of the brain that ordinarily are not strongly connected”. People with difference on this scale have certain different qualities, such as
a. They have high level of specialized knowledge.
b. They are capable of divergent thinking mediated by the frontal lobe (most important for creativity) and
c. They are able to modulate neurotransmitters such as nor-epinephrine.

Flaherty (2005) postulated a three factor model of creativity as resulting from an interaction of the frontal lobes, the temporal lobes and dopamine from the limbic system. In a study Jung et al. (2010), using sMRI, found that a region within the lingual gyrus was negatively correlated with Composite Creativity Index (CCI); the right posterior cingulate correlated positively with the CCI. For the Creative Achievement Questionnaire (CAQ), lower left lateral orbito-frontal volume correlated with higher creative achievement; higher cortical thickness was related to higher scores on the CAQ in the right angular gyrus. EEG studies show that creative individuals exhibit lower levels of mental activity when engaged in the solution of creative problems. Ross and Sachdev (2004) found that greater N–acetyl aspartate (NAA) predict higher cognitive function in both normal and patient populations.

1.1.3.4. BIOSOCIAL PERSPECTIVE OF CREATIVITY

This theory states that creativity is basically genetic, and thus, genius are indeed born, not made. The basic tenets of the theory are:

a) There is a link between madness and creativity
b) Creativity is a special form of madness

c) Madness results from neuropathology and finally

d) Neuropathology is inherited.

1.1.3.5. PSYCHOECONOMIC PERSPECTIVE OF CREATIVITY

Creativity is a powerful driver of personal and economical success. Economic approaches of creativity focuses on, basically, three aspects of creativity- the impact of creativity on economic growth, methods of modelling markets for creativity, and the maximization of economic creativity (innovation).

It is difficult to come up with a single conclusion after having gone through the aforesaid theories and approaches of creativity, though certain ideas can be drawn out, yet there is not a single theory that can explain creativity clearly. The possible reason is that every theory is studying the one and the same idea but from the different perspective and the very small part of it. In other words it can be inferred that every theorist is studying creativity on the one and same continuum but one at the one extreme and the other at the other extreme and some are scattered here and there on that same continuum. Maslow (1959) has a very healthy and positive view regarding creativity, whereas Freud (1908) has a pathological view regarding the same concept. It is somewhat confusing but it can be summarized from arbitrary standpoint: that the theories state that creativity is related to primary process and is same as some pathology (neurosis) (Freud, 1908) and the other theory states that creativity involves higher level (secondary process) functions and being creative means being fully functional or becoming self-actualized (Maslow, 1959). Creativity is enhanced or even caused by addictive substance (addiction) and is correlated with some degree of mental illness.

It is a unique association of different ideas and/or conscious restructuring the situation or problem. It is a process that can be learned. And creativity is similar to some idea in nature or somewhere else, it is the potential interaction between environment and genes at certain moment of time, and/or it is the interaction between person, environment and cognition, or it is an interaction between or confluence of intelligence, knowledge, thinking style, personality, motivation and
environment (Sternberg and Lubart, 1991, 1995). In totality, all theories are stating about the concept and process of creativity, personality (pathological or healthy) of creative people, cognition involved, and the role of environment and culture in creativity. Rhodes (1961, 1987) while defining creativity in terms of four Ps (four Ps stand for person, process, product and press) observed, “Each strand has unique identity academically, but only in unity do the four strands operate functionally”. Despite this, the past investigators studied the multifaceted nature of creativity by using a single approach i.e., they focused their attention only on variable within a specific dimension separately without considering potential interaction effects created by other variables.

The previous research shows that creativity had been studied a unitary and unidimensional phenomenon but later research reveals that it is a multidimensional phenomenon (Isaksen & Murdock, 1990; Poreh & Whiteman, 1991; Baer, 1994, Sternberg & Lubart, 1995, and Amabile, 1996). Multidimensional approach has been reflected in the early works of Guilford (1977), Mackinnon (1978) and Torrance (1979), who agreed that the phenomenon of creativity was anything but (except) one-dimensional and multifaceted nature of creativity has been expressed in a number of factors such as personality traits, cognitive abilities, cognitive styles, and motivation (Amabile 1996; Eysenck 1993; Mumford and Gustafson 1988).

Glazer (2009) proposed that for complete understanding of creativity, it is important to completely grasp its relationship with psychopathology. Three possible models for the creativity have been suggested: the existence of different kinds of creativity each associated with specific types of psychopathology, creativity operating as a continuum, and creativity as a single entity.

**Dimensions of Creativity**

Various researchers have dichotomized creativity differently:

i) C.P. Snow (1962) has given theory of "two cultures" - artistic and scientific.

ii) Barron (1957) & Suler (1980) have linked artistic creativity to primary process thinking and scientific creativity to secondary process thinking.

iv) Rossman and Horn (1972) rule oriented vs intuitive orientation associated with distinction between scientific and artistic creativity.

v) Torrance and Hall (1980) - Rational and Supra rational creativities.

vi) Samples (1987) proposed cognitive creativity and affective creativity. Cognitive creativity includes fluency, flexibility, originality and elaboration whereas affective creativity involves curiosity, risk-taking, imitation and tolerance for complexity.

vii) Heinzen (1994) - proactive creativity and reactive creativity.

viii) Stark (1965, a, b, c, 1966) has delineated two relatively independent context of creativity, namely novelty context as in originality (Mackworth, 1965) or scientific invention (Barron, 1957), meaning context, as in dramatic dreaming (Dement, 1965).

ix) Carson et al. (2005) found two types of creativity: (i) the Arts (Drama, writing, human, music, visual arts, and dance), and (ii) Science (invention, science and culinary).

On the basis of the above discussion and the information provided by the various theories proposed by different researchers and their findings, it can be conceptualised that creativity is a multifaceted phenomenon and the prominent researchers (as has been discussed above) focused on the dichotomous nature of creativity. The common theme of the dichotomy of creativity is scientific creativity and artistic creativity. And the relevant and important correlates observed by various researchers are personality traits, cognitive abilities, cognitive styles, motivation and environment.

The present research focuses on the personality dimensions (neuroticism, extraversion, openness, agreeableness, conscientiousness, and intelligence), field-dependent-independent cognitive style, and novelty and meaning types of creativity, a dichotomy of creativity proposed by Stark (1965).

1.2 MEANING AND NOVELTY TYPES OF CREATIVITY

Stark (1965) delineated two types of creativity based on the research done by Singer and Antrobus (1963), Singer (1961), Maslow (1962), Holt (1954), Schafer
(1958), Barron (1957), and Hilgard (1962). He mainly focused on primary process thinking (as proposed by psychoanalytic theory), two types of daydreaming, one of them was fantastic daydreaming (Singer and Antrobus, 1963) and Rorschach movement (M) and original (O) responses, and the interrelatedness of these issues. According to Stark (1966) movement responses of Rorschach test express the primary process thinking that is a phenomenon of everyday life. He further maintains that as a child at play behaves like an imaginative writer, in that he creates world of his own wherein he uses imagination and fantasy, in the same way poet, starts to create fantasy, builds castles in the air which are called day dreams.” Further, he says, all movement responses are included in Rorschach Protocol, whatever their content and irrespective of the presence of other determinants in them. Stark (1966) further states that a high producer of Rorschach movement, irrespective other factors will be strongly attracted to, and always will see at least some plus points in certain beliefs, conceptions, doctrines, interpretations, methods, positions, schools, styles, systems, techniques, theories, viewpoints, etc. Rorschach (1949) proposed that the movement responses have "the capacity for 'inner creation'," and that "in its finest development we call this artistic inspiration, religious experience, etc." According to Stark (1965) movement responses of the Rorschach are a measure of meaning type of creativity. The meaning context of creativity is related to context of phenomenology, i.e., of the living, experiencing individual. Moreover, from this context arise the unanswerable questions of philosophy of ages, the questions of ultimate aims, commitment, dedication, destiny, duty, goals, identity, knowledge, mission, obligation, objectives, purpose, responsibility, significance, truth, understanding, etc. Meaning context of creativity (high) has been characterised by one or more kinds of imaginations: aesthetic, analogical, cinematic, cosmic, dreamy, dramatic, fictionalizing, ghostly, inexhaustibility emergent, empathy, encounter, ethics, existential, experiencing, fantasy, feeling, formless, freedom, genius, global, goals, heart, hero, hidden, historicity, hope, humanistic, imagination, individuality, ineffability, inexhaustibility, instinct, introspective, intuition, kinaesthetic, life, living, motivation, movement, mystery, natural, openness, original, phenomenological, poet, purpose, religious, self-actualization, self-conscious, self-
determination, self-expression, self-fulfilment, self, self-stimulating, self-transcendence, self-transforming, fictional, ghostly, hazy, histrionic, homiletic, hortatory, idealistic, intuitive, irrational, journalistic, literary, loose, lunatic, magical, metaphysical, mythological, neurotic, unreal, unreliable, unscientific, vague etc. (Stark, 1965)

The context of novelty is the context of past practice or learning, of correctness, custom, habit, orthodoxy, prescription, propriety, regularity, respectability, tradition, usage, etc. It is the context of history. This history is usually social history since usually the creativity we speak of is that of an individual with respect to his group; but if our reference were only to the individual's own past practice, then by history we would mean personal history (it., biography). Novelty context of creativity is characterised by one or more of the following:

1. Breaking rules and forms, breaking with the past, defying the authorities, going against the grain, going off in new directions, refusing to follow the canons and conventions, rejecting standard methods or subjects, etc.;

2. Alteration, breach, breakthrough, change, cleverness, deviation, difference, dissent, divergence, escape, excitement, experiment, freshness, heresy, heterodoxy, improbability, infrequency, ingenuity, innovation, insubordination, insurgency, invention, modification, mutiny, newness, nonconformity, opposition, originality, rarity, rebellion, remoteness, revolution, rupture, sensation, shift, solution, surprise, uncommonness, variation, etc.;

3. Adventurousness, arrogance, audacity, boldness, bravery, conceit, confidence, contemptuousness, conviction, courage, determination, disdainfulness, effrontery, egotism, fertility, independence, obstinacy, persistence, pugnacity, resoluteness, resourcefulness, scornfulness, self-reliance, self-sufficiency, vanity, etc.;

4. Agitating, angering, annoying, distressing, disturbing, irritating, jolting, offending, outraging, shocking, etc., many of one's colleagues and audience; and
(5) Being regarded a discoverer, freer, liberator, pioneer, reformer, releaser, shaker, etc. (Stark, 1965).

The novelty context of creativity is aroused by the ‘original’ response in the Rorschach test, i.e., by a response which if followed by Rorschach (1949) himself, occurs but once in 100 tests. The present study uses movement responses of Rorschach ink-blot test only i.e., meaning type of creativity. Findings by Schredl and Erlacher (2007) indicated that dreams (about 8% of all dreams) simulated waking life creativity (play considerable role in the everyday lives of the people).

1.3 CREATIVITY AND PERSONALITY

Since long the personality of creative individuals had been a topic of utmost interest for various researchers, the reason being products generated by the creative individuals are mind shaking and at the same time quite useful for mankind. So, keen interest had been being taken to assess and understand the personality of such individuals. The break through started with the study conducted by Lombroso (1910) wherein he stated that many great musicians, including Mozart, Schumann, Beethoven, Handel, Pergolesi and Douzetti suffered attacks of insanity including delusions, hallucinations, depression and mania. Geniuses like Rousseau, Alewton, Comte and Ampero were also included in this category by Lambroso. Schumann believed that Beethoven and Mendelssohn dictated musical compositions to him from their tombs. Schopenhauer and Tasso were diagnosed as bipolar manic depressive by the same writer. Janka (2004) reviewing different studies revealed that bipolar mood disorder is highly over-represented among writers and artists. The cognitive and other psychological features of artistic creativity resemble many aspects of the hypomanic symptomatology. It may be concluded that bipolar mood traits might contribute to highly creative achievements in the field of art.

Rihmer, Gonda & Rihmer (2006) clearly suggest that prominent social and artistic creativity is associated primarily with affective, and more specifically with bipolar affective disorder. In a review of relevant literature Thys, Sabbe & De Hert
(2012) disclosed that psychometric, psycho-diagnostic and genetic research suggests a link between creativity and psychiatric problems within the bipolar-psychotic continuum, with schizotypy/thymotypy as prototypes of creativity-related disorders. According to Woody and Claridge (1977), a significant relationship exists between Eysenck's Psychoticism scale and measures of creative thinking indicate that creativity is related to psychosis. Batey (2007) found that creativity is related to high openness, low agreeableness, low conscientiousness and high neuroticism. Eysenck (1995) and Gelade (2002) found link between disagreeableness and creativity. It has been revealed that creativity correlates particularly with openness to experience domain of personality, but not with neuroticism, extraversion, agreeableness, or conscientiousness (McCrae, 1987).

A negative correlation of neuroticism with creativity was found in the sciences (Gotz and Gotz, 1979), but positive in the arts, whereas other researchers were unable to find a significant correlation between them (Eysenck & Furnham, 1993). Andreasen (2011) states that psychotic individuals are said to have a capacity to see the world in a novel and original way and to see the things that others cannot. Feist (2010) and King et al., (1996) found a positive correlation between creativity and openness to experience whereas openness also influences crystallized intelligence via the path of fluid intelligence found by Ziegler et al., (2012). Sánchez-Ruiz (2011) Cognitive ability was found to have small relationship to either index of creativity : Divergent Thinking (DT) and Creative Personality (CP) whereas as strong relationships were found between personality traits, including trait emotional intelligence Komarik (1972) found a significant correlation between creativity and extraversion or creativity and intelligence.

According to Kaufman and Plucker (2011) even after long research of 60 years the relationship between creativity and intelligence is not clear but it can be said that constructs of intelligence and creativity are related. Certain models of intelligence deem creativity as lower order factor of intelligence (Guilford, 1967;
Carrol, 1993; Bucik and Neubauer, 1996 and Jäger, 1982) whereas Silvia (2008) found contradictory results. According to threshold hypothesis about the relationship between creativity and intelligence proposed by Karwowski and Gralewski (2013) there is a significant positive relationship below the threshold, no significant correlation above it, and a significant difference between both. Jauk, Benedek & Neubauer (2013) also found relationship between intelligence and creativity.

On the basis of previous inconclusive research, the possible causes of which are multidimensionality of the concept creativity, and single separatist approaches, a link can be supposed between novelty type of creativity and neuroticism, and between meaning type of creativity and openness to experience.

1.4 CREATIVITY AND FIELD-DEPENDENT-INDEPENDENT COGNITIVE STYLES

Witkin et al. (1977) define field-independence "the extent to which a person perceives part of a field as discrete from the surrounding field as a whole, rather than embedded in the field; or... the extent to which the person perceives analytically". According to Ausburn and Ausburn (1978) cognitive styles are the “...psychological dimensions that represent the consistencies in an individual’s manner of acquiring and processing information.”

Cognitive Styles and Learning Styles

There is some confusion relating to the terms cognitive and learning styles. Various researchers use these terms interchangeably but there are certain researchers who make distinction between cognitive and learning styles. According to Jonassen & Grabowski (1993) learning styles refer to ways that people learn information, and cognitive styles are more global, referring to the way that people see the world around them and interact with it, further authors have proposed that there is a transition from cognitive abilities to learning styles wherein cognitive abilities covers the subject-matter and refers to the level of cognitive activity whereas cognitive
styles explain the ways and form of learning and finally Jonassen and Grabowski (1993) conclude that abilities enable learners to perform tasks whereas styles control the manner in which tasks are performed and also that learning styles are quite less specific than cognitive styles, which are less specific than cognitive controls. The process of transition can be understood as: cognitive abilities-cognitive controls-cognitive styles-learning styles. A similar framework regarding the relationship had been presented by Messick (1984).

The concept of Field dependence-independence has been developed by Witkin et al., (1962). The concept has its roots in the theory of psychological differentiation. Differentiation is merely a phenomenon employing segregation of self from the immediate world (environment), particularly other people, formation of articulated sub-system within the organism, capable of carrying-out specific functions in specialized fashion. Findings (Eagle, Goldberger & Breitman, 1969; Fitzibbons and Goldberger, 1971, Ruble et al. 1972; Oltman et al., 1975) also indicate that people with field-independent cognitive style use internal referents, are able to restructure the field in perceptual and intellectual activities, are less attentive to social cues (low social sensitivity), show greater self other polarity, whereas field dependent people use external referents, are likely to adhere to dominant properties of the field, are more attentive to social cues (high social sensitivity), show greater connectedness between self and others, and develop social competencies. In the theory, the cognitive and social variables are arranged in the pyramidal structure similar to factor analytic models with the most general component (differentiation) at the apex, and most specific components test (scores) at the base. Narrowest constructs (e.g. disembedding, spatial visualization) are conceived as first-order factors located just above the base, the next general constructs are conceived as second-order factors (restructuring and interpersonal competencies); and the still more general constructs (field-dependence-independence) as a third-order factor, are located just below the apex. The conceptual pyramidal structure of constructs of differentiation theory has been presented in Fig 1.1.
Fig. 1.1 Conceptual Representation of Pyramidal Structure of Psychological Differentiation Theory.
Daniels (1996), Saracho (1991), and Saracho and Spodek (1981) presented the following general tendencies of field independent and dependent individuals:

Field-independents:
- Can perceive discrete objects as separate from the field.
- Can extract items aimed at from non-relevant items within the field.
- Provide structure or frame when it is not there in the presented information.
- Can reorganize information to provide a context for prior knowledge.
- Are more efficient at remembering things. appear more distant and aloof.
- Be more socially detached but have deeper analytical skills, and
- Prefer occupations where they can work alone.

Whereas Field-dependents:
- Rely on the surrounding perceptual field.
- Have difficulty attending to, extracting, and using non salient cues.
- Lack restructuring ability when faced with ambiguous information and have difficulty in making links with prior information.
- Relatively poor in remembering things.
- Look to the global context and tend to conform to the total field.
- Are more strongly interested in people.
- Have a greater sensitivity to others with higher developed social skills, and
- Efficient in recalling social information.

According to Wertheimer (1945) creative thinking requires, conscious restructuring situation or problem, such restructuring allows new insight to emerge. Creativity requires perceptual openness “which allows an object to be approached repeatedly from varied perspectives” (Schachal, 1959). Even some researchers think of creativity in terms of cognitive styles, that is, as a way of approaching the environment cognitively and of resolving and dealing with the problems by it (Finke, 1992 and Boden, 1996).

A link between high and low creativity and field-dependence- independence can be established considering the perceptual skills, social sensitivity, social competencies, cognition involved, disembedding, and restructuring abilities, etc. associated with field- dependent and field-independent cognitive styles. There are
possibilities that highly creative individuals use more internal referents to perceive and understand things, they have rather more disembedding and restructuring abilities than non creative or people with low creativity score.

1.5 OBJECTIVES

Keeping above discussion in mind the present study was undertaken with the following objectives:

1. To study the difference between high and low meaning type of creativity on the basis of personality and field-dependent-independent cognitive styles.
2. To study the difference between high and low novelty type of creativity on the basis of personality and field-dependent-independent cognitive styles.
3. To find personality and field dependent-independent cognitive styles predictors of creativity.
4. To study novelty and meaning contexts of creativity in relation to field-dependent–independent cognitive styles.
5. To study the relationship between novelty and meaning types of creativity and personality.
6. To study the interplay between personality, field dependent-independent cognitive styles and, novelty and meaning types of creativity.

1.6 HYPOTHESES

1. There will be significant differences between high and low meaning type of creativity on personality and field-dependent-independent cognitive styles.
2. There will be significant differences between high and low novelty type of creativity on personality and field-dependent-independent cognitive styles.
3. Personality and field-dependent-independent cognitive styles significantly predict novelty and meaning types of creativity.
4. There will be significant positive correlation between novelty type of creativity and field-independent cognitive style.
5. There will be significant positive correlation between meaning type of creativity and field–dependent cognitive style.
6. There will be significant positive correlation between neuroticism and novelty type of creativity.
7. There will be significant positive correlation between openness to experience and meaning type of creativity.
8. There will be significant correlations between personality, field-dependent-independent cognitive styles, and meaning and novelty types of creativity.
Fig. 1.2. The Proposed Model Establishing Relationships Between Meaning and Novelty Types of Creativity, Personality and Cognitive Variables.