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THE EGO - FUNCTIONING OF THE CREATIVE CHILD

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A Research Report submitted to the Faculty of Arts University of the Witwatersrand, Johannesburg, in partial fulfillment of the requirements for the Degree of Master of Arts in Clinical Psychology.

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ABSTRACT i

The study aimed to examine the ego functioning of the creative child, with a view to testing theories of creative functioning. The development of these theories is reviewed from Freud's writings at the beginning of the century to more current conceptions of Creativity as a function of ego processes. The theories examined related to the ego functions of Tolerance of Ambiguity, Regression in the Service of the Ego and Empathy, all of which were hypothesised as being employed to a greater degree by creative individuals. A theoretical conception of the autonomous, intellective and creative ego was developed according to Norma Haan's (1977) view of Constructivist Man. The ego functions of 60 children (39 male and 21 female) between the ages of 8 and 12 years were tested by having their mothers rate them on Haan's Q-sort of Ego Processes. A measure of Creativity was obtained using activities from the Torrance Tests of Creative Thinking (Torrance 1974) completed by the children. Analysis of the results failed to show any significant support for the hypotheses concerning the 3 main Ego Functions. Of the other ego functions also examined using the Haan instrument, only that of Substitution showed a significant (and negative) correlation with Creativity. This suggested that (a) children

employing this ego function to a significant degree tend not to be creative and (b) Mothers valuing substitution highly may tend to stifle creativity in their children by their expectations and parenting styles. The failure to find significant support for the hypothesis is attributed to (a) possible incomplete measures of Creativity and (b) the Mother's difficulty in using the ego rating instrument in an unbiased way rather than rating for social desirability and perceived expectations of the research on certain key functions. It was concluded that trained professionals may be better equipped to accurately assess ego functioning. A discussion of the results and limitations of the study follows with a consideration of methodological problems in the measurement of both Personality and Creativity. Suggestions are made for further r search. No strong conclusions can be drawn regarding the validity of the theories discussed but they are felt to be very useful formulations for work in the educational and clinical fields.

DECLARATION

I hereby declare that this research report is my own unaided work. It is being submitted for the degree of Master of Arts (Clinical Psychology) at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.



Zachary Blumberg

This fourth day of November 1991

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INTRODUCTION

The phenomenon of Creativity has for most of this century and for many centuries before it offered a tantalizing mystery for thinkers and researchers. It is deeply linked to the notion of Inspiration and for this reason plays a unique role in being part of that which makes us peculiarly human. This short study aimed to explore a little further the nature of Creativity by testing some well known theories about its working. It is hoped that by gaining a broader understanding of the phenomenon, we can foster its growth through education and so encourage creative thinking and producing in children.

The impetus for this study came from working as a psychologist at the Schmerenbeck Educational Centre for Gifted and Talented children. In the course of assessing applicants' potential both on tests of intelligence and measures of creativity, it became clear that high IQ certainly did not automatically go hand in hand with the ability to think or produce creatively. In fact, a number of children were found who scored extremely well on the IQ test, i.e. scores of well over 130, but who displayed a marked rigidity in thinking, a perfectionism and a lack of free and divergent thinking ability. It appeared that these children were very good at, and personally invested in,

being "right", they feared making mistakes and were not venturesome in their thinking and indeed, in their behaviour generally. Other children however, scoring equally high or perhaps somewhat lower on the IQ tests, showed the unmistakable "spark" of the creative thinker: they were playful and readier to take risks and make mistakes.

Given that IQ, as it is measured on most of the existing tests, has little to do with Creativity above a certain level, (Hudson 1962), the question arises : what is it that makes one child a creative thinker while an equally 'clever' child is not?

Commonsense, pre-scientific observation suggested that the difference between these children lay in their personality styles and ways of ego-coping. It appeared that children who were more secure, were able to be less rigid in their style of ego-defense. While the more anxious child who was perfectionistic and fearful of failure, stuck more to a conforming or "correct" style. The latter were more highly defended, it seemed, by dint of their having to hold together a more fragile ego and as a result, could not play with ideas in a free and venturesome way.

These observations gave rise to a re-examination of theory produced at first by Freud in the early part of this century (1908; 1910; 1917). His understanding of Creativity as a function of the workings of the Ego and of ego-defenses suggested that a "freeing-up" of rigid ego controls allowed for access to preconscious and primary process material. The illogical and 'regressed' or playful feel to some of the children encountered seemed signs of a lively and free play of mind rather than immaturity with anxiety or, more ominously, a loosening of associations. Freud's train of theorizing was picked up by later writers in the psychoanalytic and neo-analytic schools (Kris 1952; Kubie 1958) and the notion of Regression in the Service of the Ego evolved. This suggests an ability of the ego "to initiate a partial, temporary and controlled lowering of its own functions in the furtherance of its interests" (Bellak, 1986. p. 83). In this way the person gains partial access to unconscious primary process or pre-verbal and preconscious material which facilitates and feeds originality and creativity.

The ability to tolerate ambiguity in thoughts or, in the case of the emotions, to "sit with" ambivalent feelings, also seemed a feature of some of the creative-seeming children assessed. Their views of themselves, their parents and other significant figures seemed not to

be split in an extreme fashion into good and bad; positive and negative. Rather, they were able to put forward more balanced and realistic views of themselves and others. e.g. "I'm a loyal friend but sometimes I get very cross" these phenomena were intriguing in so far as they seemed so well to illustrate shifts towards greater integration and maturity in terms of Kleinian theory. The ego-defenses of the earlier, developmentally prior Paranoid - Schizoid position involve splitting and projection, the former being a split into good and bad or black and white. Upon greater integration and maturity, the child moves into the Depressive position, gradually foregoing splitting as a defense and and adopting a more realistic view of the world and being able to tolerate grey areas in feeling and thought. The child becomes more able to tolerate ambiguity. Children showing rigidity in their cognitive processes are naturally disinclined to think of probabilities or uncertainties and being unable to tolerate ambiguity, tend not to exhibit creative thinking.

This understanding of the theory in relation to the children investigated gave rise to a third dimension of study; namely the area of Empathy. The child who has moved into the Depressive Position, as put forward by Klein, (Segal 1974) is more able to show concern for the other and less likely to view the world in a more

immature, self-centred way. A more empathic stance should logically accompany the ego-functioning of the child who has moved into the depressive position and who uses projection in a healthier and more mature way. Further, Gallo (1989) asserted that "the creative person exhibits flexible ego-control and can forego the project of the ego", experiencing "no distinctions between self and not-self; instead he can relinquish himself to a fusion with all things that nurture productive harmony". She goes on to say that "flexible ego-control and low defensiveness indicate a desire and a capacity in the creative person to react beyond the boundaries of self, traits identified to those characteristic of the empathic disposition" (p, 109).

The ego-functioning of the creative child was accessible to study on the basis of some existing theories of creativity and their explication of the phenomenon in terms of ego processes and defense mechanisms.

The study aimed to examine in detail the ego-functions of the creative child in order to test the psychodynamic and ego-psychological theories of Creativity and Ego-Functioning, as initiated by Freud and evolved by later writers. (Kris 1952; Kubie 1958). The study aimed to establish that the creative child

employs more mature, flexible and evolved ego-defences than the less creative child who will be using more immature and developmentally earlier defences which produce rigidity in thinking and so prevent the flow or generation of creative ideas.

Specifically, the theories of creativity that posited the presence, in creative individuals, of higher levels of Regression in the Service of the Ego and Tolerance of Ambiguity were examined. In addition, Barron's (1963a) and Gallo's (1989) proposals that the presence of an empathic disposition in the child will facilitate creative thinking were also examined.

This theory-testing study was carried out on a group of some 60 children who attend the Schmerenbeck Centre. They were tested on the Torrance Tests of Creative Thinking (Torrance 1974) to obtain a measure of Creativity, and their mothers rated them on Haan's Q-Sort of Ego Processes (Haan 1977) in order to gain a profile of their ego-functioning. It was hypothesized that the more creative children would be rated higher on the three areas of ego-functioning under investigation, namely, Tolerance of Ambiguity; Regression in the Service of the Ego; and Empathy, all of which are delineated by Haan as 3 of the 20 functions included on the Q-Sort.

The creative child, as understood in this study, is one capable of creative thinking and producing. He or she moves beyond the linear or logical ways of thinking to conceive of something new and unique that was not evident or inherent in the original problem or set of circumstances considered. This solution, idea or novel conception of facts, sheds new light upon, provides new insight into or offers a useful solution to a problem or configuration of circumstances. Creative thinking need not however always be useful in terms of a strict understanding of utility. Creative thinking as understood in this research is also close to the idea of Play. "Serious" play in the clinical setting suggests a constructive and healing activity that gives substance to fantasy, that rehearses difficult circumstances, that reduces psychic tension and that resolves conflict by trying out solutions. This type of creative play is an excercise in freedom and "freeing", that has a healing function for the player and enables him to operate in a safe zone, away from the battle of reality and to prepare possible solutions to take into that battle.

Creativity is therefore understood in this study as part of the repertoire of the individual described by Rogers (1962) as "fully functioning". It is understood as both having a healing function as well as being a sign of health. One of the study's goals therefore is to gain an understanding of the relationship of Creativity to Mental Health or to healthy ego-functioning. In this way it is hoped that our efforts as Mental Health Professionals and Educators working with children may be enlightened and enhanced.

CHAPTER 1 : THE THEORETICAL BASIS FOR THE STUDY

1. Psychoanalysis and Ego Psychology

Psychoanalysis has long been concerned with the phenomenon of Creativity and Freud himself conjectured about the creative process in art (1910; 1917). Before this in "The Relation of the Poet to Daydreaming" (1908), he draws parallels between the play of children as a wish-fulfilment activity; Daydreaming and the act of creation performed by the writer of an imaginative work. The wish, he says, is disguised and clothed as a story or novel because it cannot be expressed openly, the writer being 'ashamed' of his childish phantasies. The original wish, it is suggested, is unconscious and can find expression only in its transformation into phantasy. This phantasy is then given expression, after further transformation, in the creative product, poem or novel. Freud stresses that the wish and the phantasy are childlike and the creative act is a way of giving expression to them in an acceptable adult form. Thus he suggests that the daydreamer or the poet is able to relate to his unconscious and give expression to it. The reason he

gives is that there is an unfulfilled wish, an unhappiness, an unsatisfied state that is "the driving power behind phantasies" (p. 176). The main drives, he states, are erotic as well as egoistic and ambitious and it is these that find disguised expression in the creative act.

Freud goes further to give the phantasy a relation to time, saying that some event in the present has the power to arouse an intense desire. The mind then "wanders back to the memory of an earlier experience, generally belonging to infancy in which this wish was fulfilled" (p. 177). The daydream or phantasy is the mind's creation for itself, of a situation which is to emerge in the future, representing the fulfilment of the wish. Imaginative creation, like daydreaming is therefore "a continuation of and a substitute for the play of childhood". (p. 182).

In terms of the evolution of a psychoanalytic theory of creativity, it is interesting to note that at this stage, Freud had not thoroughly worked out the relationship between the Unconscious and Creativity but had strongly made the link between the two. Neither does he rigorously explain the notion of censorship in the above paper but rather refers to the creative producer as being "ashamed" of his

potential to be childish. This linkage however between Creativity and the Unconscious was to have implications for the development of later theories which built upon Freud's original idea. Shapiro (1965) states that "operations that appear to be determined unconsciously are precisely those that lie at the heart of any creative act". (p. 41). He gives as an example the process of "incubation" which most current theories of Creativity include as the crucial and central operation in creative thinking. This refers to the process where the ideas or problems being worked upon are not conscious but are being unconsciously "incubated" before the emergence of the creative idea itself.

Freud's study on Leonardo da Vinci (1910) examined the artist from the point of view of psychopathology and concluded that he was able to sublimate primitive sexual energies with facility. His thirst for knowledge was interpreted as a sublimated drive stemming from repressed infantile sexual curiosity. This represents a more evolved position that sees creativity in more formal terms as a means of resolving conflict and reducing tensions that arise from primitive parts of the psyche. But still the notion of these impulses or wishes being

made more acceptable and most importantly, available, is present, where there is a channelling of energy in the creative act and it is this energy that gives impetus to creation. The creative act is more clearly seen as a healing act that restores homeostasis and psychic equilibrium : A remarkable linkage is made by Freud of the most primitive in human biology with the most sublime in human culture and civilization.

In a later lecture, "The Paths to the Formation of Symptoms" (1917), Freud speaks of "a path that leads back from phantasy to reality". (p. 423). By this he meant the path of "art". He speaks of the artist as "in rudiments an introvert, not far removed from neurosis" (ibid) who has needs but lacks the means for satisfying them. The artist therefore must turn away from reality and transfer "all his interest, and his libido too, to the wishful constructions of his life of phantasy" (ibid). The artist, he suggests, has "a strong capacity for sublimation and a certain degree of laxity in the repressions which are decisive for a conflict" (ibid). Most people, he says, have access to "the halfway region of phantasy" but the true artist has "more at his disposal" because he is able to fashion his

phantasy in such a way that the original drive contents are expressed, but in a sufficiently disguised way so as to prevent overt expression. The artist has therefore, according to Freud, not only a strong impulse life and a tendency to neurotic inhibition but also, it seems, has better access to more primitive phantasy as well as the ability to give it expression in a sublimated and culturally acceptable way. So in the same way that the artist rides the edge of censorship, bridging the worlds of unconscious and conscious, giving "acceptable" conscious expression to "unacceptable" unconscious impulses, culturally, he is often at the forefront of social evolution or revolution. He plays, in Freud's sense of a child playing, with dangerous ideas and impulses and can often tackle difficult and morally borderline issues in the name of Art. Thus we can conceive of a social expression of an intrapsychic resolution of conflict or reduction of tension and a socio-cultural sublimation through art.

The creative act begins to be seen thus as part of the family of quasi-neurotic phenomena; a kind of symptom formation that creates art instead of symtoms and a fundamentally healthy sublimation

of drives. Freud however still speaks of "the mysterious power" that the artist possesses "of shaping some particular material until it has become a faithful image of his phantasy; and he knows moreover how to link so large a yield of pleasure to this representation of his unconscious phantasy that, for the time being at least, repressions are outweighed and lifted by it" (op. cit. p. 423-4). What this "mysterious power" is and how the artist "knows" how to do what he does, remains unexplained. However, a great deal is explained and it is the more remarkable, as this is a sort of sideline of Freud's that is the product of theorizing rather than empirical work. A workable theory of Creativity is presented that has fundamentally not been changed but only modified by later theorists. The central point is that the creative producer has "access" to unconscious material and can bring it to consciouness in a psychically efficient and healthy way in the creative act.

Freud's contribution to the theories of Creativity does not end here because later writers continued to speculate upon what he had said and carried his central ideas forward. The

later psychoanalytic, neopsychoanalytic or Ego-Psychological writers all seem to agree on the theory of "access" to material, (Pre-verbal images; primitive verbal material; phantasies etc) that is not immediately in consciousness. This idea was central to Freud's thinking. However, if we are to understand the further evolution of the theory, then two important ideas have to be admitted to the discussion.

The first is that of Primary versus Secondary Process Thinking as described by Freud (1900 and 1911). The former refers fundamentally to unconscious Id processes and primitive, unconscious phantasy life, that is, unconscious thinking life that exists prior to any censorship. This material is by definition an unformed, magic, pre-verbal flux of impulses and instincts; the "thought" of the Id. It is "an energy system of a free and mobile nature" consisting of "unneutralized drives and striving toward immediate discharge". (Shapiro 1965 p. 44).

The Secondary Process operates on the Reality Principle within the domain of ego and

consciousness. It could be called 'civilized' in comparison, to Primary Process and is, as it were, responsible for civilization in that it tends to inhibit the primitive drives represented in the Primary Process. A simple parallel to the distinction of Primary versus Secondary Process would be Unconscious versus Conscious. The fact that this simplicity does not hold and that the barrier between the two is rather permeable or "porous" (Klein 1952) is central to psychoanalytic theories of creativity.

The second important idea to come out of Freud's writing that is relevant in this area and that was taken up by those who followed him is that of the Preconscious. By this Freud meant, that which was not conscious but which was readily accessible or recallable to consciousness. Also implied was that the Preconscious stood between the system unconscious and consciousness, 'deciding' as it were, what may become conscious and what should be repressed. The preconscious may be understood as a kind of bridge between the Ego and the Id but also as a dynamic process of shifting contents, verbal and imagic.

The evolution of the theory on creativity in psychoanalysis produced a shift in emphasis from id based processes to ego processes. This resulted in greater emphasis being placed upon preconscious rather than unconscious processes.

Ernst Kris in "Psychoanalytic Explorations in Art" (1952) introduced the theory of "Regression in the Service of the Ego". This refers to the way in which ego regression takes place in phantasy. Kris went on to say that this "primitivization of ego functions occurs not only when the ego is weak - in sleep, in falling sleep, in phantasy, in intoxication and in the psychoses - but also during many types of creative processes". "This suggested to me many years ago that the ego may use the primary process and not be only overwhelmed by it. This idea was rooted in Freud's explanation of wit (1905) according to which a preconscious thought is 'entrusted for a moment to unconscious elaboration" and seemed to account for a variety of creative or other inventive processes" (Kris 1952 p. 312)

The ego, says Kris, is able to regulate regression under certain conditions and one of the integrative functions of the ego is the

"withdrawal of cathexis from one area to another to regain improved control". (ibid).

Kris makes a distinction, as do many others writing after him, between the "inspirational" and the "elaborational" phases of creation. (Shapiro 1965 p. 37). The inspirational phase, he suggests, is "characterized by the facility with which id impulses, or their closer deriviatives, are received. One might say that countercathectic energies to some extent, are added to the speed, force or intensity with which the preconscious thoughts are formed. During the "elaborational" phase, the countercathetic barrier may be reinforced, work proceeds slowly, cathexis is directed to other ego functions such as reality testing .." (Kris 1952 p. 313).

By this explanation, Kris was elucidating the shifts that occur between conscious and preconscious thought, from daydream to reality functioning. He describes how a solution to a problem can present itself after period of rest that follows on a period of intense concentration. Ego regression clearly does not imply a breakdown in ego functions but a temporary shift from purposeful conscious activity into a

resting phase where there is a regression, away from the task or concentration, into a more fluid, undifferentiated type of thinking that does not bear the hallmark of the ego's goal-directedness.

Kris hereby proposes a process in which the ego has access to primary process material via the system preconscious, through temporary, controlled lapses in control, which he called ego-regression. He also relates the theory to the now accepted notion of the stages involved in the creative process. (e.g. inspirational and elaborational phases).

Later Kubie (1958) contended that the preconscious system is the only one involved in the creative process and rejected the Freudian notion of creativity being the function of the sublimation of unconscious drives. He maintained that the contents of the unconscious were not accessible to phantasy and creative thinking because they were completely repressed.

Shapiro (1965) notes that these later shifts in emphasis in psychoanalytic theory on creativity have brought the theories of thinking closer to

those of ego psychology and hence into the province of Cognitive Psychology. For example, he cites Thurstone (1950, 1962) who suggests the term "non-verbalized pre-focal thinking" for the activity of "having some kind of rapport" with pre-conscious thoughts. The essentials of the theories of Freud and Kris discussed above are clearly present.

Although a full appraisal of all available theories of creative thinking is not within the scope of this study, it is important to note how close Kris's (1952) theory comes to the existing theory in cognitive psychological thinking. Mednick (1962), for example, argues that creativity is the capacity to combine remote associations and he devised a test to measure this. More creative people have "flatter associative hierarchies" than the less creative, meaning that the original stimulus activates more cognitive units which are less strongly bonded to the stimulus on an ordinary word-association test. Martindale (1981) shows how degree of focus of attention and steepness of associative gradient are two terms for the same phenomena. In other words, the more attention is focussed upon the task at hand, the less we can expect

short term memory to be operative because the person cannot focus attentively in the "elaborational" or secondary process mode and at the same time allow more remote associations to enter consciousness. And "to say that less is going on in the focus of attention is equivalent to saying that more is going on in the fringe of consciousness" (ibid. p. 375).

Mednick's (1962) Remote Associate's Test is more structured, where the testee has to find the fourth word in a set of three items or stimulus words. The fourth word is associatively rather than logically linked to the previous three. High scorers on this test produce more associations and continue to associate longer on simple word association tests.

Martindale (1981 p. 387) concludes that unfocussed attention logically implies relatively high activation of units in short-term memory. Further he states that "creative inspiration involves relatively equal activation of cognitive units in primary memory (which consists of focal attention plus short-term memory)". This he equates with Mednick's theory which says that a person with a steep associative gradient should

be uncreative, while a person with flat associative gradients should be creative. This in turn he equates with Kris's theory which he says is identical but expressed in terms of primary process thinking.

It seems clear then that as Kris suggests, the ability to shift from a position of focussed attention or a more elaborational mode of thinking into the more de-focussed inspirational mode, makes for creative ability. It is an important emphasis upon the element of "shift" if we are to distinguish between creative thinking and producing as against a loosening of associations that might occur in a state of wholly weakened ego. The person's ego regression must be able to be used in a focussed way in order to connect it to the realities of the problem. If this is not the case then the regression is not "in the service of the ego" and cannot be harnessed to aid the work of creativity.

2. Specific Areas of Relevance in the Theory

In observing the subjects of this study prior to any formal assessment of their creative ability or specific ego-functioning styles, it was felt that there were particular variables operating in their personalities that made them more or less creative.

The first of these pre-scientific observations was a noting of the presence or absence of the tendency to use imagination with facility in answering questions or telling stories. (The Thematic Apperception Test was used as one of the standard procedures to assess personality functioning). Some children seemed to be creative while others seemed more rigid, fact-bound and driven by the desire to conform and be correct in their behaviour and in their answering of questions. This observed characteristic may be subsumed under the label inherent in Kris's (1952) theory of Regression in the Service of the Ego. This is observed as a certain playfulness in thinking, a humourous tendency, an enjoyment of novel ideas and a production of them "in situ" before one's eyes.

The second characteristic that was noted, often by its absence, was the ability to deal with complex, indefinite and ambiguous states in feeling or in fact and idea. Some children were clearly more comfortable than others with mixed feelings or grey areas in thought and were able to give more than an all-good or all-bad account of themselves. This ability is understood as Tolerance of Ambiguity.

The third area of interest concerned the way the child related and reflected a degree of developmental maturity. The child who is able to imagine what it is like to be someone else, to put himself in another's shoes, is performing a creative act in so far as he is "imagining". However, more than that, he is able to leave his own ego for a moment and recreate an imaginary set of conditions that pertain to someone else. This ability presupposes two things. The first is that the child is not so immaturely ego-centric as to make this act of imagining and considering the other impossible. Ego-centricity implies a constricted and absolute mode of cognitive functioning that does not admit the flexibility of partial solutions or partial gratification. The second is that the child has

the cognitive flexibility to make the shift from the immediate concerns of ego to consider other sets of circumstances that are imaginary rather than felt directly by himself. The above may be seen as an ability to empathize and so move beyond the boundaries of ego.

These three phenomena, Regression in the Service of the Ego; Tolerance of Ambiguity and Empathy form the three tenets of the central hypothesis of the present study. If the child exhibits some or all of these qualities in his ego-functioning, the hypothesis is made that we can expect a concomitant ability to think creatively, on the basis of existing theories about Creativity. The following sections deal in greater detail with these phenomena, where they have not already been discussed and attempts to fill out a theoretical foundation for the study.

(a) Regression in the Service of the Ego

The way in which ego-regression can occur in a not necessarily weak state of ego has been discussed in the previous section. Suffice to say that this, according to the theory of Kris (1952) is what actually occurs in the process of

the production of creative ideas or solutions to problems. Kris has emphasized that the creative thinker not only has access to primary process thinking via the temporary and partial lowering of ego defences that allows access to an expression of preconscious material but that the person has an ability to shift between two types of thinking, the inspirational and the elaborational modes. This implies that without the ability to make use of images or ideas that spring from the unfocussed preconscious, the person is not able to be genuinely creative in that he will not be able to elaborate through focussing, structuring and formulating, using evolved secondary process. This is what differentiates the creative thinker from one who is half-asleep or psychotic : the ability to organize, link and apply i.e to bring the power of the creative well-springs of primary process thinking to bear upon problems in reality that are ultimately dealt with in the conscious mind using secondary process thinking.

The theory of Regression in the Service of the Ego to explain the phenomena of creative thinking is central to this study and shows important

traces of the evolution of psychoanalytic thinking in this area as well as in the body of thinking about creativity as a whole.

In Freud's paper on "The Relation of the Poet to Daydreaming" (1908), he speaks in rather speculative terms about the poet's unfulfilled wishes being the impetus for childish phantasy and daydreaming that in turn give rise to imaginative productions by the writer's disguising them in more acceptable garb. In his (1910) study on Leonardo da Vinci, he formulated the idea of the creative person's powerful instinctual drives being sublimated into creative production and a thirst for knowledge. A sublimation of sexual curiosity took place that would otherwise have been unacceptable in its unsublimated form. By 1917, in his lecture on "The Paths to the Formation of Symptoms", he had begun to conceive of the creative process as a more healthy resolution of instinctually arising tension and conflict between id impulses and ego restraints that would otherwise have resulted in the formation of neurotic symptoms.

Freud's understanding of the "access" that the creative person had to his unconscious, implied

just this in so far as it was primary process material that was available to him via phantasy and daydreaming. Kris's (1952) formulation also involves the person using primary process material but lays stress upon the role of the preconscious. In this way, Kris explicated the process in terms very much to do with the ego functioning of the creative person and emphasised flexibility in the ego's being able to shift between pre-focussed and focussed thinking as vital to the ability to think creatively.

By highlighting the role of Ego in the Creative processes, the mystique surrounding the creative act is somewhat diminished. Freud's conception seems to embody an almost Old Testament biblical return to the inchoate profusion of the fertile void of Genesis where "darkness was upon the face of the deep" (Genesis 1:2). Fantasy represents the chink of light upon the darkness of the unconscious and by bringing secondary process thinking to bear upon fantasy, the products of "deep" mind become accessible to the ego and a shared reality. Freud's thinking retains a great attractiveness because it preserves this numinous property of the creative act. In God's "saying",

"Let there be light", the word governs darkness and creates a division between darkness and light. This mirrors the act of creative thinking even on the most mundane level in two ways. Initially, light is thrown upon the darkness of the unconscious, on the hidden, in so far as the unconscious is made conscious, primary process thinking is transformed into secondary process that is manageable. And secondly by creating a division between darkness and light, the process whereby language and secondary process thinking "divide", categorise, name, segment and limit pre-verbal imagic thinking is paralleled.

It is interesting to note how thinking about Creativity has changed in that the emphasis upon the role of the Ego and the refutation by some (Kubie 1958), of the accessibility of the unconscious, represents a shift toward a conception of the creative process as happening "in the light", as it were or at most, in the penumbral zone of the preconscious.

An understanding of the secondary process as "civilizer" of the species, suggests in this context a shifted emphasis onto the more accessible and civilized aspects of mental

functioning; an implicit attempt perhaps to salvage theory from darkness. Even amongst psychoanalytic writers after Freud, who regard themselves as Analytic thinkers the emphasis has been very much upon the role of ego-defences in coping and personality functioning in general.

The following area to be focussed upon embodies just such a shift in analytic thinking by understanding an aspect of creative thinking in terms of ego defences.

(b) Tolerance of Ambiguity

Shmukler (1968) quotes Frenkel-Brunswick (1949) as saying that some people are better able to tolerate emotional ambiquities than others. This means that they are better able to cope with having both positive and negative feelings towards another, e.g a parent, at the same time. Both feelings of love and hate toward a single person are able to co-exist without creating an unbearable discomfort in the person feeling these emotions. Frenkel-Brunswick's empirical findings go further to show that not only do some people have difficulty with emotional ambivalence or mixed feelings but also that these individuals

exhibit a cognitive "rigidity". Their thinking tends towards black-white solutions, the cognitive equivalent of an emotional love-hate; all good - all bad split. These people are "disinclined to think of probabilities or uncertainties, preferring black-white solutions to problems. They seem unable to abandon mental sets in intellectual tasks after they have lost their appropriateness. (Shmukler 1968 p. 46).

Barron (1963a) showed that creative subjects prefer complex patterns and uncreative subjects prefer simple ones. Creative people are able to tolerate a diversity of ideas, disorder and chaos before they order their ideas. Creatives do not seek quick, clean and unambiguous solutions to problems and are able to tolerate ambiguity or uncertainty.

Mednick's (1962) argument that creative people are able to combine remote associations supports this in that if a person were only able to think in terms of "clean" and wholly logical cognitive sets, then they would not be able to generate or synthesize novel ideas and solutions to seemingly insoluble problems.

Barron (1953) showed that creative people are able to "admit all sorts of pathological and negative things about themselves" (quoted in Martindale 1981 p. 379). Thus they are able to hold both positive and negative views of themselves and to tolerate this complex uncertainly or ambiguity.

These findings have important reference in other areas of psychoanalytic thought that emerged later than and as a development of Freudian theory. One such theorist whose work has direct bearing on the notion of "Tolerance of Ambiguity" and implications for the understanding of Creativity, is Melanie Klein, writing in the 50 s and early 60's.

In "Our Adult World and its Roots in Infancy" (Klein 1959), she discusses the very early defense mechanisms of the ego. One of the most central of these defenses is referred to as Splitting. This describes the working of the infant's internal psychic world in relating to the mother or "object" in Klein's terms. She suggests that when this primary object, the mother, is experienced as available, nurturant and meeting the needs of the infant then she is experienced as "the loved object".

When the infant is hungry and uncomfortable and experiencing the rages of deprivation and abandonment, then this same object is experienced as hated and persecuting. Because the persecution experienced in deprivation is powerful and overwhelming and arouses great anxiety in the infant, there is a need..." to keep separate the loved object from the dangerous one and therefore to split love from hate, for the young infant's self-preservation depends on his trust in a good mother. By splitting the two aspects and clinging to the good one, he preserves his belief in a good object and his capacity to love it; and this is an essential condition for keeping alive" (p. 253).

Mrs Klein goes on to say that "the process of splitting changes in form and content as development goes on but in some ways it is never entirely given up" (ibid) And further: "In normal development, with growing integration of the ego, splitting processes diminish, and the increased capacity to understand external reality, and to some extent to bring together the infant's contradictory impulses, leads to a greater synthesis of the good and bad aspects of the object. This means that people can be loved in

spite of their faults and that the world is not seen only in terms of black and white" (p. 255).

The implications of this theory for an understanding of the personality of the creative individual are important because of the links it makes between the development of the emotional life on the one hand and the cognitive processes on the other. This type of linkage is not unusual between psychoanalytic theories and those of cognitive/developmental psychology. One of the best examples of this is in the observation of the phenomenan of Object Constancy. This is a recognized milestone in the very young child's cognitive development where he is able to hold in his mind the fact of the existence of an object that was visible to him and then concealed. For example, he is shown a ball which is then placed under an inverted box but then later knows where to find the ball if he has reached the stage of Object Constancy. This cognitive ability is developmentally parallel to an emotional milestone where the child is able to hold an image of the mother in his mind even after, for example, she has left the room or his field of vision. This represents a vital emotional

development for the child who has moved to a level of greater maturity, individuation and separation and shows a concomitant strengthening of ego.

Because, as Mrs Klein says, the tendency to split "results in part from the fact that the early ego largely lacks coherence" (1959 p. 253) we can infer that with "the increased capacity to understand external reality" (p. 255), the ego is much stronger, more robust and more flexible. With this increased maturity of ego, there is a greater ability to tolerate states of mind that engender anxiety. In relation to parents for example, the child whose ego is stronger will be more able to tolerate the holding of two opposing emotional views about them. That is, the child will be able to see the parent realistically as sometimes good and gratifying of their desires and sometimes depriving, persecutory and hateful. The stronger ego is able to "hold on to" the notion of underlying goodness or a "good enough" quality about the internalized love object and this internal picture is not completely destroyed or spoilt by feelings or images of the object as hated, depriving, dangerous and persecutory.

Therefore, in adjudging someone as being able to tolerate ambiguity, we imply a certain maturity, flexibility and elasticity of the ego and this in turn implies that a level of emotional development has been reached. The immature or insecure child does not have such a well established and robust internalized good object and as a result cannot admit contradictory viewpoints or even too much ambiguity and complexity because it threatens his sense of personal security. For as Mrs Klein points out, it is a matter of "survival" (ibid.) that the integrity of the picture of the internalized good object is preserved.

It is important to understand that while the stage of splitting in Kleinian terms is theoretically over after some few months of life, the vestiges of this type of thinking remain as a style and tendency in the person to a greater or lesser degree. Thus, a person of any age may exhibit a style of thinking that embodies an earlier phase of functioning and is charactarized by the use of the primitive ego defense mechanisms of splitting projection and denial. Many people, children or adults may also revert to earlier defenses when under great stress.

However some people may tend to employ these ego-defenses more pervasively and this may comprise a pattern of generalized personality functioning.

In children, who are chronologically closer to the time when splitting, projection and denial are used normally, they may still be partially employing them. Such a child's thinking would be characterized by some rigidity and a difficulty in handling complexity, diversity of stimuli and ambiguity. Conversely, the child with more developed and robust ego process will not experience undue anxiety when confronted with grey areas or ambiguity both on a cognitive and an emotional level.

(c) Empathy

Delores Gallo, in her paper "Educating for Empathy, Reason and Imagination" (1989), defines the term 'empathy', stating that "an empathic response is one which contains both a cognitive and an affective dimension. In the field of social psychology, one can find the term empathy used in at least two ways : to mean a predominantly cognitive response, understanding

how another feels, or to mean an affective communion with the other. In the latter instance, it may refer to putting oneself in the place of another and anticipating the behaviour of the other. Or it might suggest a still more dramatic transformation, the imaginative transposing of oneself into the thinking, feeling and actions of another" (p. 100).

And further, in commenting on the traits of the creative person she notes that "flexible ego-control and low defensiveness indicate a desire and a capacity in the creative person to react beyond the boundaries of self, traits identical to those characteristic of the empathic disposition" (p. 109).

The creative person is able to "forego the project of the ego and can experience no distinctions between self and not-self; instead he can relinquish himself to a fusion with all things that nurture a productive harmony" (p. 110).

Gallo argues then that the attributes which characterize empathy correlate with those of effective critical thinking and imagination. She

stresses that this does not suggest a causal relationship between these qualities but shows how the three overlap and are found "to be significant among a set of conditions necessary for the demonstration of empathy, rationality or creativity" (p. 114).

Gallo links the affective (empathy) with the rational and imaginative (creativity) and argues that empathy should be cultivated so as to promote "multiple perspective-taking and genuine open-mindedness". (p.114). This is the thrust of her paper as an educationist.

The links between creativity and empathy are also to be found in the writing of theorists in the psychoanalytic tradition.

Melanie Klein's research into the stages of emotional development of the infant yields an important insight into the development of an empathic ability. She posits a paranoid-schizoid position, operative in the first quarter of the first year of life. At this stage, ego development is still primitive and the defenses employed are predominantly those of splitting, projection and denial. As described in the

previous section on Tolerance of Ambiguity, splitting operates as a cognitive mechanism that keeps separate the opposing views the infant has of his or her primary object. The views of the mother as all good, nurturant and an inexhaustible satisfier of needs, as opposed to the view of her as depriving and persecutory when the infant is hungry, uncomfortable and alone, are kept separate by defensive splitting.

Following this stage, as the ego grows in integration and stability, the child moves into the Depressive Position. (Segal 1974 p. 67). It is in this phase of development that the infant begins to recognize a whole object and relates himself to this object. At the same time as perceiving the object as a whole, the infant is able to hold together in a gradually more realistic fashion, a conception of his mother as good and bad, or a whole being having both good and bad aspects and is able to tolerate this because the conception of the primary object as fundamentally good is well entrenched enough to withstand the contradictions of the opposite view of mother as depriving and hence persecutory. There is no longer therefore such a need to split because the ego is stronger.

"The whole relationship to objects alters as the depressive position is gradually worked through. The infant acquires the capacity to love and respect people as separate, differentiated individuals. He becomes capable of acknowledging his impulses, of feeling a sense of responsibility for them and of tolerating guilt. The new capacity to feel concern for his objects helps him gradually to control his impulses" (Segal p. 74).

What is important for our discussion is that the infant begins to own his aggressive feelings and impulses towards the mother and begins to feel depressive guilt about them and some depressive anxiety about the damage he feels he may have done to his loved objects. This superego guilt is at first experienced as very powerful, even severely persecutory at some times. But as the whole object relation is more fully established, the superego approximates more to the view of good and loved parents. The child is then able to mourn the objects he feels he has lost or destroyed and this mourning is ultimately constructive because, as Segal explains, "The pain of mourning experienced in the depressive position, and the reparative drives developed to restore the loved internal and external objects, are the basis of creating and sublimation".

"The infant's longing to recreate his lost objects gives him the impulse to put together what has been torn asunder, to reconstruct what has been destroyed, to recreate and to create" (p. 75).

Segal emphasizes the process of symbol formation as central to the working through of loss experienced by the child. She notes that Freud discovered that "sublimation is the outcome of a successful renunciation of an instinctual aim". She adds that this can only happen through mourning. "The giving up of an instinctual aim or object, is a repetition and at the same time a reliving of the giving up of the breast. It can be successful, like the first situation, if the object to be given up can be assimilated in the ego, by the process of loss and internal restoration. I suggest that such an assimilated object becomes a symbol within the ego. In this view symbol formation is the outcome of a loss, it is a creative work involving the pain and the whole work of mourning" (p. 76).

So while the working through of the depressive position directly involves "creative work" on an intrapsychic level, what is vital to this present

study is also the fact that in this working through there is a sense of concern for the other and an ability therefore to "care for" the other as separate and having feelings. These are the fundamentals of empathy where the child is able to imagine what another feels as separate from himself and having a wholeness apart from himself. There is a movement away from the ego-centric thinking of the paranoid-schizoid position where he experiences himself as the centre of his universe either omnipotent or annihilated, to a position of seeing others as separate and whole and himself in realistic relation to them. Most important however is a sense of concern that is empathic as opposed to the ruthlessness of the paranoid-schizoid position.

Thus the Kleinian view of creativity is fundamentally an expansion of Freudian theory in two ways. Firstly, the creative act is seen as stemming from a desire to make reparation to the loved object thought injured or damaged by aggressive impulses, the awareness of which was previously split off from consciousness by the defenses of the paranoid-schizoid position. This occurs through the formation of a symbol for

the lost or destroyed object, so restoring it for the ego through the work of mourning. By sublimating the original instinctual drive there is a giving up of the aim of the desire and a cathexis onto an alternative object. In creating an alternative and channelling drive energy appropriately, the newly cathected object acts as a symbol for the original object and there is, as it were, a symbolic or metaphoric satisfaction of the drive.

In the paper "Some Theoretical Conclusions Regarding the Emotional Life of the Infant", (1952) Melanie Klein discuss the vicissitudes of the depressive position and the effects on the ego of depressive anxiety which serves as a drive for the creative impulse.

"When depressive anxiety arises, and particularly with the onset of the depressive position, the ego feels driven to project, deflect and distribute desires and emotions, as well as guilt and the urge to make reparation, on to new objects and interests. These processes, in my view, are a mainspring for sublimations throughout life (p. 83).

And secondly, in the depressive position a sense of concern for the other grows and by an imaginative or creative act, the child is able to put himself in another's shoes to feel what the other may feel in an empath c way. This is due to the integration of a superego into the ego's functioning that makes the child aware of the potentially damaging consequences of aggressive and destructive wishes, and engenders guilt. At the base of these "new" functions of ego is the awareness of the other as separate and whole as well as a view of the self as separate. By foregoing the project of the ego, i.e. to maintain integrity and a sense of boundaried wholeness, the creative individual can shift, through a process of healthy projective identification (See Klein 1959 p. 68), into the position of another. This act of imagination enables the process of empathy by a temporary shifting of ego boundaries and can only occur successfully and not degenerate into a loss of ego-integrity if the ego is whole and well boundaried to begin with.

3. Summary

The ego functions of Regression in the Service of the Ego, Tolerance of Ambiguity and Empathy were observed as occurring in some of the subjects of the present study on a pre-scientific basis. These were seen as both necessary to and part of creative functioning in those children showing these characteristics. A review of psychoanalytic literature shows these three factors as occurring in conjunction with the creative process. Regression in the Service of the Ego is a concept developed by Kris (1952) to explain the shift in focus of the ego from a conscious formulating and elaborating mode to a relatively unfocussed play in the preconscious mode which enables the making of remote associations and the generation of creative ideas and combinations.

Tolerance of Ambiguity refers to an ability to hold conflicting or opposing ideas and feelings in consciousness and to tolerate the resultant anxiety, complexity and uncertainty. This flexibility in ego functioning enables the

synthesis of new ideas and novel solutions which would be "unthinkable" in someone with more rigid, black-white type thinking.

Empathy is in itself a creative or imaginative process that pre-supposes an ability to forego the immediate project of the ego to maintain boundary and integrity and that enables the individual to "imagine" what it is like to be or to be like the other. This springs from a developmentally gained sense of wholeness and separateness and an awareness of the same in the other.

The ability to be empathic comes with the working through of the Depressive Position in which the process of mourning sets in motion reparative attempts and symbol formation which are the basis for, according to Klein, all creative thinking and producing.

These are the three aspects of psychoanalytic theory to be examined in the present study. They do not in any was represent an exhaustive list of ego functions that are of relevance to creativity but have been examined in previous related

studies (Shapiro 1965; Shmukler 1968) and are observable, measurable functions that were also noted in cursory observation of the subjects of the present study.

CHAPTER 2 : The Study in Perspective

1. Some notes on Ego Functioning

The present study employs an Ego Processes rating instrument developed by Norma Haan (1977). The "Q-Sort of Ego Processes," is the product of research and theory-building that addresses conceptions of ego functioning and their development, from the time of Freud.

A brief account of Haan's theoretical basis is important from the point of view of understanding the evolution of theory about ego functioning in general. As has been suggested earlier, the theories about creativity in psychoanalyti' and then in neoanalytic and ego psychological thinking have developed alongside and shifted with the changes in conceptions of ego functioning. The role of ego, its flexibility and fitness, has been emphasized more of late and the autonomy of ego has grown in conceptions of it in theory.

Haan (1977), as a personality theorist or "personologist", seeks to redraw in a radical but as she says "not extreme" way, the boundaries of

the province of Personality. She is a Process theorist and seeks to define and describe "the processes that people use in their attempts to be "persons", the strategies they use to achieve a modestly sensible view of themselves". She calls these "ego processes", saying that "All we see that is specifically personality and not more clearly something else are the analyzing and synthesizing efforts that the person makes, moment by moment and within the framework of his own phenomenology, to make self-consistent sense out of himself and what others and the world make of him" (p. 2).

Haan therefore stresses the coping function of ego as opposed to the Freudian notion of defending, where the ego is seen as nothing more than a director of traffic between the id, superego and external reality. Her argument is that Freud and those who came after him and kept faith with his conception of ego, never really accorded sufficient recognition of the ego's own energy, its ability to function autonomously, its intellective and constructivist nature. This conception of ego leans more to a Piagetian view that places the ego more squarely at the helm of normal functioning.

Haan holds that the stress on the ego's function as 'Coping' "entails a changed view of the successful man. He is not primarily a winner, but merely an accurate, authentic negotiator with himself, others and life". (p. 4).

Her view is closer to the Piagetian one in that the strategies of ego are not "solely or even most importantly", protective of the wishes for drive gratification. She shows how the "latter day theorists" such as Hartman and Kris (1945), while they spoke of the "secondary autonomy of the conflict-free ego sphere", did not essentially depart from the Freudian idea that in ego functioning "self-preservation invariably pre-empts self-expression". (p. 12).

For Haan, the "entire story of non-defensive functioning" is not done justice by the psychoanalytic and neo-analytic conceptions of ego because the ego is never seen as free from "the drives of the id and the tyranny of the superego". (p. 12).

She posits a sphere of coping which "involves purpose, choice and flexible shift, adheres to intersubjective reality and logic, and allows and

enhances proportionate affective expression". The ego here is not in a compromised position giving attenuated expression to id drives. She stresses that the person, in the coping mode, is "being fully himself". This she contrasts with a second mode of functioning, that of Defending. This is described as "compelled, negating, rigid, distorting of intersubjective reality and logic", allowing only "covert impulse expression", and embodying the expectancy that anxiety can be relieved without directly addressing the problem". A third mode of functioning is called Fragmentation which is described as "automated, ritualistic, privatistically formulated, affectively directed and irrationally expressed in the sense that intersubjective reality is clearly violated". (p. 34).

Haan's view is one of 'Constructivist Man' where ego processes deal with the problems of living by "constructing resolutions to changing situations instead of reproducing learned responses emanating from achieved states" (p. 44). By adopting such a position, she does justice to the creative ability <u>of the ego</u>. She has not done

away with the Freudian bedrock of Ego, defenses, superego, id impulses ... and so on, but has developed Freudian conceptions where they were overly positivistic and mechanistic. She comes from a position of assessing the classical definitions of the ego-defenses as all including some element of "negating intersubjective truth and reality". Haan (1963) and Kroeber (1963) felt that additional forms of ego actions were needed that did not negate truth and reality (p. 37).

Haan's formulation goes further to suggest that an ego function may exist in three different modes on a sort of continuum of psychological health, attunement to reality and trueness to the self. For example, she takes the generic process of Sensitivity and says that in the Coping mode this appears as Empathy, a healthy, non-defensive mode where relating to others is made possible. In the Defending mode, the same sensitivity becomes Projection, and as a Fragmenting reaction, a kind of delusional ideation that may be called psychotic In the coping mode, there is no real distortion of intra - and intersubjective reality. In the defensive, projecting form, there is a partial attenuation

of intra - and intersubjective reality, while in the fragmentary delusional process, reality testing has broken down.

This descriptive schema enables us to gain an understanding of the phenomenon of creativity as not necessarily founded in ego-defensive processes but rather as an intellective, constructive or problem- solving operation of ego. In Haan's view it is conceivable that the ego has its own autonomy and energy and that creativity, as it relates to every day thinking, adaptation, learning and coping, is based in the ego.

The conditions of psychic pain, loss, conflict, tension and inadmissible wishes that are set for the creative process in psychoanalytic, neo-analytic and Object Relations theory may well be operative. The Human Condition, loosely conceived, embodies enough elements of tragedy, compromise and struggle, to justify the conception that creativity is a healing, reparative or sublimatory process. But Haan's view of coping, authentic, constructing man broadens our conception to include many everyday situations where creativity does not mean

writing a poem or inventing a windmill but simply finding a passable and temporary solution to who will baby-sit the children while mother does the shopping. In this way, Haan does justice to the vast range of human experience that is more than just managed but also conceptualized, changed and influenced by the ego that stands "in the interstice between person and situation" (p. IX), being part of both in a dynamic process.

Haan's work on the ego, processes therefore not only provides this study with a tool for rating ego functions and a conceptual framework for understanding them, but also implies a way of thinking about Creativity that places it further and more firmly still, in terms of the evolution of the theory, within the province of Ego and thus, of everyday functioning.

2. Closely Related Studies

The present study is closely related to and based upon two consecutive studies by Shapiro (1965) and Shmukler (1968). A special section is devoted to a brief review of the relation of these studies to the present one. Two more recent American studies are also discussed.

Shapiro (1965) investigated the predictors of creative ability and tested certain hypotheses regarding the dynamics of the creative process and the psychodynamics of creative research scientists. He established a high and a low creativity group on the basis of these predictors and the tested hypotheses concerning the differences between the high and low creative scientists.

Shapiro made five hypotheses regarding the thinking processes of 'high creative scientists'. These related to:

(i) The ability to integrate remotely associated concepts.
(ii) The sensitivity to implications.
(iii) The expression of primary process material in fantasy.
(iv) The expression of humour in fantasy.
(v) The expression of ambivalent attitudes to parental figures.

(Chapter 3)

The first four of the hypotheses were supported by Shapiro's findings and the fifth, that predicted ambivalent attitudes to parental

figures amongst the high creative research scientists was supported with regard to the mother but not the father figure.

Shmukler's (1968) study on Creative Factors in High School Children has somewhat more limited aims than Shapiro's study. It shows that successfully developed tests are applicable to a younger sample than Shapiro's which consisted of 72 male research scientists, average age 35. Shmukler tested 105 male and female matriculants aged between 16 and 18 years. Shmukler's postulate about the psychodynamic nature of creativity and the factor of home background influencing creative behaviour arise from Shapiro's study but she aims to replicate this part of the study including females in her sample.

Both studies investigate the relationship between creativity and intelligence. An incidental finding of Shapiro's shows that creativity is unrelated to intelligence in his sample. Shmukler sets out to prove, and does, that creativity is unrelated to intelligence as well as to school achievement or teacher's ratings. Shmukler also finds substantial support for her

hypotheses that creatives show more primary process and more humour than non-creatives, thus verifying Shapiro's findings (Shmukler 1968 p. 123).

The present study aims to establish the validity of psychodynamic and other theories of creativity. In examining Tolerance of Ambiguity in a sample of 8-12 year old boys and girls, it seeks to replicate both Shapiro's and Shmukler's studies, using a much younger sample comprised of both sexes.

In using Torrance's (1974) creativity tests, specifically the Product Improvement test as one of its instruments, the present study is in a further respect similar to Shapiro's.

The present study uses the Torrance Tests as an established measure of creativity and does not seek as Shapiro does, to establish new measures. In this way, its aims are far more limited.

Shmukler concludes that the use of personality characteristics as criteria for creativity is a promising avenue of research (p. 132). The

present study aims to link certain ego functions with the ability to think creatively and in this way examines "personality" as defined by Haan (1977) in a limited way.

One of the hypotheses of the present study pertains to Regression in the Service of the Ego. This does not make a direct link between Shapiro's and Shmukler's studies but in their shared postulates about primary process being present in creative people's fantasy, a theoretical association is made. Kris (1952) in speaking about ego regression theorizes that in creative thinking, primary process material may "become part of preconscious mental processes" (p. 306). In this way, the hypothesis of the present study rests on a similar psychoanalytic conceptual framework as those of Shapiro and Shmukler in speaking about ego regression and testing for it rather than testing directly for the presence or absence of primary process thinking infantasy productions.

Nossel (1984) also links Creativity with primary process thinking in his study: "Primary Process thinking as a Basis of Creativity Improvement". He aims to investigate methods of improving

creativity by determining the extent to which methods that stimulate primary process thinking affect creativity. He also examines, conversely, the extent to which creativity improvement techniques involve primary process thinking.

A further closely related study is that by Koenig (1973) who tests Rogers' implication that Creativity forms part of the repertoire of the fully functioning person. This study is closely related to the present one because the ego functions hypothesized as prevalent in the creative person are also the ego functions of greater psychological health and developmental maturity. Koenig also uses the Torrance Tests of Creative Thinking but correlates these scores with those on the Personal Orientation Inventory ("a multivariate operational definition of fully funchioningness"). This sample consisted of roughly equal numbers (+ - 70) of Male and Female college students. His results were essentially negative which he attributed to "the incomplete instrumentation of the construct of creativity". While he adjudges the Torrance Tests as being the best group instrument available for testing

creativity, he feels that the domain tested is too small to do justice to the considerably larger domain of creative thinking.

A further study by Loshak (1973) investigated the relationships between Creativity, Ego Integration and Body Image Boundaries. His results were mixed, with partial support being shown for the hypothesis that "Barrier", or good body image boundaries are related to creative ability. However, he did not find support for one of his supplementary hypotheses that ego strength and creativity are related. He concluded therefore that doubt was cast on the theory of creativity as adaptive regression.

It is clear from the sample of studies reviewed here that the search to find predictors and personality correlates of creativity continues in attempts to better understand the complex and elusive phenomena of creative thinking and producing.

3. Aims of the Study

This study set out to test the validity of some psychoanalytic; neoanalytic and other later theories about the ego functions of creative individuals.

The first of the theories explored was Kris's (1952) theory on Regression in the Service of the Ego which postulates a facility in employing this function in creative individuals.

The ability to tolerate ambiguity both emotionally and cognitively is said by many theorists to enable the individual to think creatively, (Frenkel-Brunswick 1949; Barron 1953; Shapiro 1965 and Shmukler 1968). This theory was also tested by looking for evidence of the ability in the creative child.

The third aim was to establish the presence of an empathic ability in the personality development of creative individuals. Barron (1963) and Gallo (1989) postulate that creativity and an empathic ability exist together. This supports the Object Relations theory of Klein (1952 and 1959) that shows how the reparative process occurring in the

working through of the Depressive Position forms the mainspring for all later sublimations and the basis therefore for Creativity. Further too, Klein suggests that at the time of working through depression, the child develops a sense of the separateness and wholeness of the other and is then able to have concern for them and hence, the beginnings of an empathic ability.

The present study also aims therefore to show the link between developmental level and the ability to think creatively in that Regression in the Service the Ego; Tolerance of Ambiguity and Empathy are all understood as abilities gained in the course of ego maturation.

By gaining an understanding of the personality of the creative person and more specifically, a knowledge of what type of ego functioning facilities the creative process, we are also better able to understand the relationship of Creativity to Psychological Health.

Rogers (1962) suggests that the fully functioning individual is creative and that this forms part of his psychological health. This study also aims to demonstrate this point by examining the

ego functions of creative children. Tolerance of Ambiguity and Empathy are both qualities of ego functioning that imply a level of maturity in development and even in adult life, are but two of the hallmarks of the healthily functioning individual. Regression in the Service of the Ego points to a more specific ability and style of personality functioning but most importantly presupposes not only a strong but a flexible ego. Ego elasticity is here distinguished from loosening of associations and faulty reality testing. Kris stressed, as has been mentioned earlier, that it is the individual's ability to shift modes of functioning, from the 'regressed' to the rational and logical elaborational phase of thinking, that enables creative thinking and problem solving.

Conversely too, this study aims to highlight the fact that creativity and mental health are connected in the opposite sense as well, namely that creative endeavour and creative thinking engender psychological healing. This is suggested by Klein (1959) and later, in a different context, by Aberbach (1989) who showed how people who had suffered tragic losses or traumata were able to better deal with their grief through the help of creative expression.

Finally, by gaining a better understanding of the relationship between creative processes and ego functioning we may on the one hand better manage potentially creative thinkers through, as Gallo (1989) suggests, educating for empathy, reason and imagination. Conversely we may broaden our use of the creative process in therapeutic endeavours in so far as creative work is often healing work.

CHAPTER 3 The Experimental Research

1. Hypotheses

1. There will be a significant difference in the ego functioning of more creative individuals as opposed to their less creative counterparts.
2. (a) More creative individuals will show a significantly higher level of Tolerance of Ambiguity than those less creative -
   (b) More creative individuals will show a significantly higher level of Regression in the Service of the Ego than those less creative -
   (c) More creative individuals will show a significantly higher level of Empathy than those less creative -

   - on Haan's Q-Sort of Ego Processes : Coping and Defence (1977).

2. Subjects

The subjects used in this study consisted of 60 children between the ages of 8 and 12 years who attend the Schmerenbeck Educational Centre for Gifted Children. This population was chosen by virtue of the fact that they had all been tested for IQ and had scored over 120, a score beyond which intelligence plays little or no role in Creativity. (Hudson 1962; Shapiro 1965; Shmukler 1968). Schmerenbeck is the major centre for giftedness in this country and provided a population readily available to the researcher. The age range was delineated so as to test subjects in latency age where there would be a reasonable stability in ego functions. The children, that is, would be between the developmental periods of emotional flux of early childhood and the turmoil of adolescence. Originally it was envisaged that equal numbers of male and female subjects could be obtained but it transpired that of the available subjects there existed a ratio of approximately 2 to 1 males to females. This appeared to be due to the fact that this ratio of males to females existed in this age group at the Centre because more boys than girls were referred there by parents and

teachers. (An interesting phenomenon in itself). Therefore, of the 60 subjects, 39 were boys and 21 girls. The mean age of the children was 9,6 years. The youngest at the time of testing was 8 years and 2 months old and the eldest 11 years and 11 months.

The mean IQ of the subjects was 137, the highest being 155 and the lowest 123. All subjects had already been tested on an IQ test, either by the present researcher or by outside psychologists and were registered at the centre. Therefore, the participation by parents and their children was entirely voluntary and all were fully informed that this involvement would have no bearing on present or future acceptability to the centre's programs. A letter to this effect that requested participation in the study was sent to the parents of prospective subjects. Most parents approached were very willing to participate and only a handful declined participation, ignored the request or failed to show for the testing appointment.

Subjects were selected for the study from the existing files of the Schmerenbeck Centre according to the limits of age. They had either

been recently admitted and were yet to begin courses or else, as was most often the case, were currently participating in the centre's activities.

Children who were special cases, for example those with learning difficulties, occupational problems or known severe emotional disturbance were screened out of the set that comprised the potential sample, as were the children whose mothers were not fluent in English and would have had undue difficulty understanding and performing their task. No control was made for socio-economic status or race and the sample was representative of the hypothetical 'average' family involved at the centre which is, broadly speaking middle class.

3. Instruments Used in the Study

Two instruments were used in order to obtain the measures for Creativity and for Ego-functioning. These were the Torrance Tests of Creative Thinking and Haan's Q-Sort of Ego Processes : Coping and Defence.

(a) The Torrance Tests (Torrance 1974) consist of a battery of activities that involve the subject in a number of types of creative thinking tasks both verbal and figural. This enables the researcher to examine many aspects of the subjects functioning and to obtain a profile of strengths and weaknesses in the different areas and activities as well as to calculate an overall Creativity score. These tests were chosen as an instrument for the study for the reason that an overall Creativity score could be obtained and an objective scoring system was available.

Khatena (1982), writing about the Torrance Tests in a discussion on the measurement of Creativity, says that "After about twenty years of successful and careful work with

the instruments we can safely say that here are instruments that can tell us with a high level of predictability how the creative processing of information by an individual occurs". (p. 22).

The tests chosen from the battery for use in this study were (i) Product Improvement (ii) Unusual Uses of Cardboard boxes and (iii) Just suppose ...The Product Improvement test was used in modified form by Shapiro (1965) and Shmukler (1968). It was felt that as the present study follows the conceptual framework of these studies, this test should be used.

The Unusual uses and Just Suppose tests were used in addition, to create a more comprehensive battery for the children to complete. They are enjoyable tests and can be administered in a short time. This suited the procedures of the study and enabled the researcher to find an overall Creativity score for each child with reasonable ease. It was also suggested by researchers in the field that these three

activities of the Torrance battery were widely used and more reliably scored than some of the other tests.

(b) Haan (1977) developed a Q-Sort of Ego Processes which examines a wide range of functions in terms of her model of ego-functioning. This model was felt to be appropriate to the present study by virtue of its conceptual roots in the theories of Freud, however much Haan has expanded and developed the idea of Ego as Process. The present study involved the testing of psychoanalytic theories of creativity and it was felt that this would best be done by using an instrument that had a similar conceptual base. In addition to this rationale, Haan's Q-Sort also has in it the specific functions that this study hypothesised are positively correlated with Creativity. By using the whole Q-Sort it was also possible to informally examine other ego functions included in it but not formally hypothesised about, and their relation to Creativity.

Another advantage of using the Q-Sort was felt to be that the mothers of the children subjects would be able to use it easily to give the researcher a picture of the child's ego functioning. This, it was felt, would obviate the need for extensive and time consuming testing of the child. By giving the Q-Sort to the mothers in the form of a full set of shuffled cards, only some of which pertained to the hypotheses, of which they were ignorant, it was felt that an objective measure of the child's ego-functioning could be obtained from someone who knew them very well.

In addition, Kerlinger (1986) discussing Q-sort methodology suggests that "we have individuals sort the cards not so much to test the individual as to test 'theories' that have been built into the items". (p. 512). And further he states that "if the theories are valid and if the Q-sort adequately expresses the theory, two rather big "ifs", the statistical analysis of the sorts should show the theory's validity" (p. 513).

Therefore, also on the basis of this, the instrument was felt to be suitable because of the 'theory-testing' nature of the present study.

Haan's Q-Sort consists of a set of 60 cards, on each of which is printed a description of a particular characteristic of behaviour. The mothers' task consists of sorting the cards by rating their child for each characteristic on a 1 to 9 scale. The higher the item was rated (i.e the closer to 9), the more characteristic was the description of her child. A normal distribution of items per point on the rating scale is obtained by stipulating the number of items to be placed at each point of the scale. The distribution suggested by Haan was adopted and runs as follows

Rating:	1	2	3	4	5	6	7	8	9
No of items:	3	5	7	9	12	9	7	5	3

Please refer to the appendices for details of all items on this test as well as the Torrance Tests).

4. Procedures

(a) Testing

Following the selection of subjects by searching the existing files of the Schmerenbeck Centre and requesting participation from the mothers and their children, individual appointments were set up for testing. The testing of each subject took approximately one hour in which time the child completed the Torrance Tests of Creativity and the mother simultaneously in a separate room, completed the Haan Q-Sort of Ego Processes, rating their child on the various functions.

The child and his or her mother were first taken to the mothers' testing room at the centre and the mother's task was explained to her in terms of the stated aims of the study. This procedure was adopted because the mother's task took approximately an hour and the child's about half that. It was also felt that this would allay any anxiety in the younger child who might need to know where his mother was and what she was

doing. The child was then taken to the children's testing room and his task was explained to him using modified "de-americanized" instructions. The tests were done in the order of Product Improvement; Unusual Uses and Just Suppose and the time limits set were 12 minutes; 12 minutes and 6 minutes respectively. The time limits given are respectively 2, 2 and 1 minutes longer than those suggested by Torrance. This modification was made following a number of trial testings which yielded rather few responses in the prescribed time limit. The extra time provided for the generation of rather fuller sets of responses.

Each separate activity the child performed, was explained beforehand by the examiner and pains were taken to ensure that the child fully understood his brief.

The examiner would periodically return to the mother while the child completed his task to ensure that she fully understood the meanings of the items on which she was rating her child.

It was initially envisaged that the testings could be done in large groups of 10 pairs of mothers and children but experience showed that the mothers generally had difficulty understanding and sorting the items. For this reason, a maximum of 3 pairs could be tested at once because the examiner had to often explain the meaning of items to the mothers and to help them understand how to use the method of rating and sorting.

(b) Scoring

The Torrance Tests were scored according to the guidelines layed out in the Scoring Guide, (Torrance 1974) for activities 4, 5 and 7. A total Fluency score was obtained by adding the individual fluency scores for each activity. The same operation was performed in respect of the Flexibility and Originality scores for each activity. A total Creativity Score (C) was obtained by summing the Fluency, Flexibility and Originality scores for each subject.

e.g

	Activity 4 Product Improvement	Acitvity 5 Unusual Uses	Activity 7 Just Suppose
Fluency	12	16	7
Flexibility	4	4	3
Originality	4	8	2

Total Fluency = 12 + 16 + 7 = 35

Total Flexibility = 4 + 6 + 3 = 13

Total Originality = 4 + 8 + 2 = 14

Total Creativity (C) = 62

Scoring of the Haan ratings was done for each specific function being examined. These consisted of three main "Intraceptive" functions viz. Tolerance of Ambiguity; Empathy and Regression in the Service of the Ego as well as other functions not covered by the main hypotheses but investigated in order to make fuller use of the Q-Sort and so build up a more comprehensive profile of ego functioning in relation to Creativity.

Each function, of which there are a total of 20 covered by the Q-Sort, had three items describing it which the mother had rated according to her knowledge of the child, on a 9-point scale. Thus by adding

the ratings assigned to the various items, a score for each function could be obtained.

e.g Tolerance of Ambiguity is covered by items 19; 20 and 21.

Assuming the mother had rated these at points 5, and 9 respectively on the 9-point scale, a al score for this function could be obtained by summing the ratings for each item.

Item:	19	20	21
Ratings:	5	6	9

Tolerance of Ambiguity score = 5 + 6 + 9 = 20

A similar operation was performed for each function examined, giving a possible profile of ego functions that might look as follows:

e.g Tolerance of Ambiguity 5 + 6 + 9 = 20

Empathy 2 + 2 + 4 = 8

Regression in the S of the E 6 + 7 + 8 = 21

Each Ego function could then be correlated against the Creativity score to test the hypotheses.

5. Methodology

The simple correlations (Pearson's r, significance at the 0.05 level) between Creativity and the three variables on the Haan set of Ego Functions were calculated. In addition to this, a further six ego functions were correlated against the Creativity score in order to investigate other relationships that have relevance to the theory under discussion. These were: Projection, Denial, Concentration, Sublimation, Substitution and Regression.

It was intended that a multiple regression analysis be performed with the Creativity score being the Criterion variable (C) and the Empathy, Tolerance of Ambiguity and Regression in the Service of the Ego scores on the Haan scale, being the independent variables (P 1; P 2 and P 3).

6. Results

Upon calculating the simple correlations between Creativity and the three main Ego functions it was found that no significant support was given to any of the hypotheses.

For this reason it was unnecessary to perform a multiple regression analysis. Of the other six variables also tested against the Creativity score it was found that only the ego function of Substitution showed a significant (negative) correlation at the 0.0199 level.

A comparison of the means on Creativity for Males and Females did not show any significant difference:

Males Creativity X = 76,02
Females Creativity X = 71,36

An examination of the means of Tolerance of Ambiguity, Empathy and Regression in the Service of the Ego shows that of the three, only Tolerance of Ambiguity seems to have been rated by the mothers in a reasonably unbiased way X = 14.18). The other two, Empathy (X = 19.25) and

Regression in the Service of the Ego (X = 20.5) suggest an overly high rating of these functions. This is reasoned from the premise that we can reasonably expect the sample to have an average spread of children who are Empathic and are not Empathic; some who employ Ego Regression and others who do not.

The distribution of scores on the creativity test:

Minimum 31
Maximum 125
X = 74.31

suggested that the test was able to differentiate between subjects more reliably, on the tasks that they completed. The scores on these tests obtained by individuals previously observed by the researcher, complied with expectations about their levels of creativity : those informally adjudged to be creative children did score higher on the Torrance Tests. It was clear however that those with more task commitment and motivation scored better than those approaching the tests in a more desultory manner and with poorer concentration.

The correlations of the main variables with the creativity score are as follows:

Main Variables	Creativity
Tolerance of Ambiguity	r = - 0.00609 sig. level <0.9632
Empathy	r = - 0.02205 sig. level <0.8672
Regression in Service of Ego	r = 0.16239 sig. level <0. 2151

There is no correlation of statistical significance.

The correlations of the secondary variables with creativity were investigated to make better use of the Ego Functions instrument and to explore any possible relationships that might have had bearing upon the discussion.

The correlations of the secondary variables with Creativity are as follows:

Secondary Variables	Creativity
Projection	r = - 0.04708 Sig. level <0.7209
Denial	r = - 0.00944 Sig. level <0.9429
Concentration	r = - 0.17303 Sig. level <0.1861
Sublimation	r = - 0.05095 Sig. level <0.6990
Substitution	r = - 0.29989 Sig. level <0.0199*
Regression	r = - 0.04433 Sig. level <0.7367

It is noted that only on the ego function of Substitution is there any significant correlation with Creativity and that this correlation is negative.

An investigation of the correlations of all the variables on the Haan instrument with each other, revealed significant correlations between the following:

1. A negative correlation between Tolerance of Ambiguity and Projection. (At the <0.0003 level of significance).

2. A negative correlation between Empathy and Regression in the Service of the Ego. (At the <0.0189 level of significance).
3. A positive correlation between Denial and Repression. (At the <0.0488 level of significance).
4. A positive correlation between Concentration . . Sublimation. (At the <0.0121 level of significance).
5. A positive correlation between Substitution and Empathy. (At the <0.0015 level of significance).
6. A negative correlation between Substitution and Projection (At the <0.0134 level of significance).

CHAPTER 4 DISCUSSION

1. General Findings

This study attempted primarily to test psychoanalytic and neo-analytic theories of creativity. The aim of this was to gain a fuller understanding of the personality or ego-functioning variables that enable and engender creative thinking and producing in children. The impetus for the study was an observed problem in some very bright children whose personality development seemed to be preventing them from functioning fully as creative individuals. These children seemed partially arrested in their emotional development or constricted in some way so as to prevent free play in their thinking. It was felt, from a clinical perspective, that successful negotiation of developmental phases and a movement to more mature, robust and flexible ego-functioning facilitated and enabled creative thinking. The move away from the more infantile or immature ego-defenses, characteristic of the paranoid-schizoid position, was felt to be a pre-requisite for the more flexible ego-functioning of Creativity. Children who by

dint of their immaturity, emotional stuckness, anxiety or other compromised emotional functioning tend to retain vestiges to a greater or lesser degree of the earlier defense mechanisms that protect a more fragile ego. Adults too tend to revert to the more primitive defenses when under extreme stress or in crisis. And it may be said that everyone retains or has, built into their personality functioning, a potential to function in more regressed and primitive ways and to employ the earlier ego-defenses. This tendency, if it pervades the ego-processes will tend to inhibit full and ...e functioning that includes creative functioning and may be built into the more limited and constricted personality. This study adopts therefore, the broad humanistic view of ...reativity as part of the repertoire of the fully functioning individual (Rogers 1962) and tries to link Creativity in this way with Emotional Health.

The main hypotheses of the present study were not supported by the results of statistical analysis of the data obtained. None of the three factors (Tolerance of Ambiguity; Empathy and Regression in the Service of the Ego) on the Haan scale of

ego-processes showed a significant correlation with the Creativity score on the Torrance Tests of Creative Thinking. Of the functions chosen to also investigate as secondary to the main hypotheses, only Substitution showed a significant correlation with Creativity (A negative correlation).

The Substitution ego-function is described by Haan as "good reaction formation". The "subject expresses tempered, domesticated feelings. The distinction between strong reaction formations and strong substitutions must be made on the basis of the appropriateness, flexibility, metering and purposiveness of the coping process and on the rigidity, compulsion, self-righteousness, and "magic" involved in the defense mechanism" (1977 p. 306). The three items that cover Substitution on the Q-Sort of ego processes are as follows:

49. Acts fairly even in trying circumstances.
50. Acts civilly even in trying circumstances.
51. Regulates expression of feelings proportionate to the situation.

The negative correlation between Substitution and Creativity throws up interesting questions about the personality of the creative individual. It suggests that the very regulated and domesticated individual may tend not to be creative. The personality of the creative thinker seems to be one that puts self-expression before conformity and correctness; that is not highly invested in being good, correct and morally proper. The creative individual in the present sample may not be very strictly governed in his or her actions by a strong or overly punitive superego. In addition, we may posit a greater reliance upon self or internal values and perceptions of what is needed in a "trying" situation, rather than a strong government of natural impulses for the sake of social acceptability or moral rightness.

Shallcross (1962) examines "personal risk" and the relationship between positive self-concept and creative behaviour. She cites studies by MacKinnon (1962) which found that "those who excelled in creative production held a great deal of respect for self, that they used the self as a source as well as that which is outside the self. Highly creative individuals respect themselves as a source as much as they respect

external sources" (Shallcross p. 80). The child who tends to employ substitution to a large degree in trying circumstances we can understand as not wanting to rebel or take personal risks but choosing rather to conform for the sake of gaining an inner sense of stability in an externally difficult situation. The more creative person will not be so conforming under this analysis and will risk finding a solution that flows from an expression of his or her self.

However, if we are to assume that the mothers injected some of their own personal bias into the rating of their children, which seems likely, then we can reasonably conclude that mothers who value (the ego function of) Substitution too highly may tend to stifle a freely creative functioning in their children. Mothers as well as parents and families that value Substitution rather highly, may tend then to stifle free expression of .ocial 'differentness' and in so doing constrict creative functioning. It may well be therefore that parental expectations, parents own personalities, their attitudes towards the child's freedom of expression and towards discipline, all serve to encourage and facilitate or else constrict the creative process.

One reason for the failure to find significant correlations between the main variables investigated and creativity, has already been suggested earlier in the 'Results' section of this report. Because Empathy and Regression in the Service of the Ego appear to be worded in such a way as to suggest positive or socially desirable behaviours, mothers may have inadvertently been biased towards these functions.

For example, items:

"25 Tries to understand other's feelings" and "26 Reacts sensitively to other's feelings",

both given as characteristics of Empathy, could clearly have been regarded as socially acceptable traits by mothers wanting to see their children as empathic and present them in a positive light.

Similarly, the items for Regression in the Service of the Ego for example: the item

"31. Enjoys surprising aspects of situations, for example, situational humour or sudden insights",

is a desirable personality trait, making it rather unusual for a mother not to rate her child highly on it. Indeed, how many people would not rate themselves high on this item?

It may also be the case that children of high IQ, as was the norm in the sample studied, do in fact show or are automatically adjudged as showing the above trait. For example, the second item descriptive of Regression in the Service of the Ego,

"32. Plays with ideas and feelings without being constrained by situational demands".

This may well be more likely to be the case amongst a group of high IQ children who could ordinarily exhibit this trait to a greater extent than a normal sample. Keen intellect may be mistaken for creativity and possibly more so by a loving mother.

It must also be noted that the mothers in general had difficulty with their task. Many of the items they found difficult to fully understand and to objectively apply in the rating of their children. Many needed the researcher's help in

understanding items in the lived context of their child's behaviour. Some items are stated in the negative and the resultant "double negative" effect was confusing to a number of mothers. e.g. Item 22. "Unable to commit self to personal courses of action even when possible to do so". This item would be rated high if the child were indecisive, and was confusing to a number of mothers. It was also noted how some mothers rushed through the task and may have placed some items randomly rather than think carefully about each item. In the face of this rather difficult task it is felt that some mothers may have resorted to applying judgements of social acceptability and personal bias in favour of their children when sorting the items. The abnormally high means of Empathy and Regression in the Service of the Ego support this contention. (See Appendix for mean scores and standard deviations).

2. The Secondary Variables

A second statistical operation was performed correlating all the variables scored with each other. The results of this provide some informative correlations that are of relevance to the theoretical discussion of this study.

The negative correlation between Tolerance of Ambiguity and Projection ($r = -0.45581$ at the significance level <0.0003) supports the theoretical standpoint of the present study. Projection is seen as one of the triad of 'primitive' defenses employed in the Paranoid-Schizoid position (Klein 1952) ; Projection, Denial and Splitting. Tolerance of Ambiguity in the thinking processes implies a de-emphasis or infrequent occurrence of splitting as a defense mechanism. Splitting tends to divide the world into black and white; good and bad. Tolerance of Ambiguity suggests an ability to tolerate in consciousness, conflicting ides and emotions and to integrate them into a more realistic and balanced whole. Projection is akin to ... works together with splitting in that intolerable states experienced by the infant are split off from consciousness and projected onto or attributed to some outside agent. It would seem then that the mothers may have accurately differentiated between children employing the defense mechanisms of the paranoid-schizoid position and those based more firmly in the reality of the depressive position where these defenses fall away or diminish in occurrence.

The negative correlation between Empathy and Regression in the Service of the Ego (r = 0.30230 at the significance level <0.0189) runs counter to the hypothesized direction of correlation and the theoretical predictions of this study. This finding may be of significance to the theoretical understanding of ego functioning in that the ability to empathize, and in Gallo's (1989) terms, "forego the project of the ego" (p. 110) cannot be equated with or seen as existing in parallel with what Kris (1952) understands as adaptive ego regression.

It may be that the positive correlation between Empathy and Substitution, (r = 0.40132 at the significance level <0.0015) places an empathic ability closer to the notion of ego strength in terms of regulation of behaviour by superego constraints and by impulse control. Regression in the Service of the Ego however, described by Haan as "Playfulness", may well occur as Kris implies in "weakened" states of ego. It may also be the case that Haan's items describing "Playfulness", do just this without sufficient demand in the criteria for Kris's emphasis on the ability to "shift" back to the more structured secondary process thinking or elaborational

mode. Without this ability and strength of ego, ego regression is purely regressive and at best 'playful' and will not neccessarily result in the ability to put into practice creative thinking and producing.

The positive correlation between Denial and Repression ($r = 0.2555$ at the significance level <0.0488) though not very strong, suggests that these functions may exist in parallel. Repression may be seen as the weaker form of Denial, the two being related in principle in theory and in the ego functions found in the sample. This may be seen as evidence that mothers were able to rate the children consistently on some variables perhaps but not on others.

The positive correlation of Concentration with Sublimation ($r = 0.32202$ at the significance level <0.0121) gives evidence for the argument that sublimation may occur more readily in the individual with the ego strength necessary for concentration. The ability to concentrate, in a child, implies an ability to delay gratification and also to channel energy into a task that is not a simple gratification of impulse. This

relationship supports the theory that the ability to be creative may depend upon the maturity of ego development in so far as sublimation can be seen as a fundamentally creative ego process. (Klein 1952 p. 83).

Substitution and Empathy are also positively correlated (r = 0.40132 at the significance level <0.0015)) which suggests that the empathic individual has a more "domesticated" way of functioning which takes the other into account "even under trying circumstances". The notion that empathy or true concern can occur only in the more robust, unsplit ego that delays personal gratification, is supported. As mentioned earlier in discussion of the negative correlation between Empathy and Ego Regression, Haan's conception of empathy and the mothers' understanding of these items leans towards an understanding of this ego-function as closer to an ability to substitute, to put personal gratification on the back burner and to function according to superego injunctions.

Similarly, the negative correlation between Substitution and Projection ($r = 0.31758$ at the siginificance level <0.0134) also suggests that the mothers were able to differentiate accurately between more and less mature ego functioning. The use of projection as ego defense belongs to the more infantile mode of functioning while substitution is a more mature coping response in Haan's terms. If we are to think of the lived context of "trying circumstances", as put forward by Haan, then we can certainly envisage the child who projects as probably not behaving fairly or civilly but possibly as projecting blame onto another or resorting to splitting, so presenting an attenuated, incomplete or unhelpful response to the situation.

3. Summary

The failure to find support for the hypotheses may be interpreted on the one hand as casting doubt upon the validity of the theories of ego functioning and creativity : the theoretical understanding of the creative process may not accurately reflect the actual internal events that occur in creative thinking and production. However, the strength of this conclusion is

limited due to the obvious observed difficulty that the mothers had in using the Haan Q-Sort and the skewness of the distribution of scores for the functions of Empathy (X = 19.25) and Regression in the Service of the Ego (X = 20.5). It is felt that these factors were rated for social desirability and/or the fulfilling of perceived expectations of the research. Given the uncertainty placed over the reliability of the mother's ratings, the conclusion that Tolerance of Ambiguity (X = 14.18) is unrelated to Creativity is not a strongly based one. The fact that the sample of children was uniformly of high IQ, may also have confounded the results as some of the key ego functions may have been rated high as a perceived function of intelligence rather than of creativity.

A degree of internal consistency of the mothers' ratings was found in the internal correlations discovered between various ego functions listed on the Haan instrument. These correlations support the theoretical understanding of the ego functions covered in this study while not neccessarily throwing light upon their relationships to creative functioning.

There appears to have been a consistent differentiation by the mothers between the mature and the immature ego functions. In particular, an understanding of Empathy as seemingly more akin to the strong and mature ego functions such as Substitution is gained. This lends support to the theoretical understanding of Empathy as an ability to "forego the project of the ego", where the ego is robust enough to withstand this temporary lowering of defense.

The discovery of a negative correlation between Substitution and Creativity lends credence to the belief that children who tend to employ this ego function a lot, will tend not to respond creatively. Bearing in mind that the mothers may have injected their personal biases in rating their children, it can also be concluded that those mothers who value Substitution highly as a behavioural goal, will not facilitate creative functioning in their children.

4. Methodological Problems and Limitations of the Study

The failure to find support for the main hypotheses may be due to three possible factors.

The first is that the theory about the ego functions of creative individuals is incorrect and that the theory-testing exercise of the present study properly tested the theories and found them wanting. This conclusion would however not be strongly based because of the limited nature of the study and its reliance upon only two instruments, one to measure Creativity and the other Ego Functioning. The study has also allowed for the rating of the ego-functions to be done by lay people who may not have been in a position to accurately assess the children in areas that may properly be the province of trained professionals.

The second possibility is that the Torrance Tests of Creative Thinking have not accurately measured the said ability. This too seems unlikely, on the one hand because of the proven reliability of the tests (Khatena 1982 p. 22) and on the other because of the performance of the instrument in the present study, where a realistic distribution of scores was obtained without undue skewness. In addition, prior observation of children known to the researcher was corroborated by the achievement of these children on the creativity

tests. Children whom the researcher felt were creative, did in fact score highly on the tests and vice versa.

The third possibility, and one that seems most likely to explain the failure of support for the hypotheses, is that the mothers did not give an accurate rating of certain of their children's ego functioning. Observation of the mothers' handling of the Q-Sort suggested that :

(a) Many found a lot of the items difficult to understand.
(b) Many completed the task too quickly and without sufficient thought, so sacrificing accuracy.
(c) Even when they understood the items, they often expressed difficulty with deciding where to place it on the 9-point scale.

It appeared both from observation and an examination of the mean scores on certain functions, that mothers tended to be biased in favour of their children and rated them highly on what they perceived to be socially desirable items.

The highest mean of all the rated items was for Regression in the Service of the Ego (X = 20.53) which of all the items most clearly expresses the operation of Creativity. As the mothers knew the purpose of the creativity test being done by their children as well as the title of the research, they also may well have placed those particular items high on the scale so as to satisfy what they perceived as the researcher's expectations.

(a) The Measurement of Personality

As this study aims to establish some of the Personality or Ego-Function correlates of Creativity, the problems of personality assessment per se are of relevance and may have had bearing upon the results of the research.

Mischel (1968) discusses the problems inherent in predicting behaviour over time and in different situations where an attempt has been made to describe a person's behaviour according to a specific trait or configuration of traits. Difficulties invariably arise in applying state and trait

theories because "the existence of such stimulus-free, highly generalized behavioural sets - not the occurrence of long-term individual differences in response to stimuli - (that) is unsupported by the data". "Although behaviour patterns often may be stable they usually are not highly generalized across situations". He states further that "when response-reinforcement relations are discriminative and eliciting stimuli endure over time, the behaviour remains stable; when the maintaining conditions for behaviour change, the behaviour itself changes" (p. 282).

Mischel (1984) also notes that "Global, situation free consistencies (in personality) are neither expected nor maintained : Discriminative facility rather than rigidity characterizes adaptive behaviour" (p. 351).

It becomes clear on examination of studies performed by Mischel and others (e.g Norman 1963) that to achieve measures of personality using a taxonomy of particular traits that are consistent over time and

different situations is extremely difficult. These findings appear also to support Haan's (1977) contention that "Personality as such "exists" only in a special and limited way. All that we see that is specifically personality and not more clearly something else are the analyzing and synthesizing efforts that the person makes, moment by moment and within the framework of his own phenomenology, to make self-consistent sense out of himself and what others and the world make of him" (p. 2).

While Haan's efforts to look at personality in terms of Ego Processes rather than particular, more static traits suggest an approach that more accurately admits of the dynamic and interactional nature of personality, the problem of the rating of an individual by another on a specific slice of behaviour that is described using a particular taxonomy, remains.

Even assuming that the rater using the Q-Sort had absolute and complete knowledge of the subject, he or she would still have

been limited by the defined and specified description of the behaviour that must of neccessity freeze, make static and therefore not true-to-life, an otherwise dynamic and living process. In addition, the list of factors or characteristics can never claim to be exhaustive and therefore fully descriptive of the individual or the situations under which creative behaviour may occur.

This inherent shortcoming in any measurement procedure of the complex set of phenomena that we call Personality must also be taken into account when reviewing the limitations and problems in the present study.

(b) The Measurement of Creativity

Khatena (1982) dispels the "myth" that creativity is too difficult to measure. He recommends the use of the Torrance Tests saying that they are instruments that "tell us with a high level of predictability how the creative processing of information by an individual occurs" (p. 22). He does however acknowledge "the elusive nature of

creativity" and concedes that there is as yet no test for "native creativity" (ibid). In addition to this, not all of the Torrance Tests were used for this study, only three of those in the "verbal" section. None that test in the "figural" made were used, with the result that it cannot be claimed that a comprehensive or global measure of Creativity was obtained. One is also therefore unable to conclude whether or not there would have been correlations between the hypothesized ego functions and a Creativity score that was made up of all or more of the Torrance measures. A fuller testing of Creative potential would have lent more weight to any conclusions drawn in this study.

5. Suggestions for Further Research

In general, the failure of this experiment to produce any substantial support for the hypotheses suggests that a more comprehensive and accurate assessment both of ego functions as well as of Creativity might yield more conclusive results. A more open-ended exploratory study that examined ego-functioning in depth in

relation to a full assessment of Creativity in the individual might yield a useful result in the form of a configuration of ego functions that are predominant in the creative person. This would serve one of the stated aims of this study in that an understanding of what makes people creative in terms of ego processes would be gained.

The negative correlation between one of the additional ego functions examined, namely Substitution, and Creativity, may suggest on the one hand that creative individuals tend not to function in this way. On the other hand, as concluded earlier, if the mothers, in rating their children, tended to show their own preferences for what they considered to be desirable behaviour, then one may assume that those who rear their children with Substitution as a goal, may in fact be stifling their children's creativity by insisting too much upon correct, civil and regulated behaviour. This result points to a possibly profitable examination of parenting styles and family dynamics in relation to the creative functioning of children. This was also a finding and suggestion of Shmukler's research. (1968 p. 132).

Allied to the above is the observation that the mother's rating of the subjects may have been biased towards social desirability and perceived expectation of the examiner. This problem may be obviated by obtaining an unbiased rating of the child's ego functioning. This may best be achieved by using a professional examiner who is not invested in the perceptions others may have of the child. Ideally, a psychologist should rate the child on the Q-Sort following a thorough clinical examination and series of interviews or play assessment sessions. Such a study would by its nature use a limited number of subjects but would gain greatly in its descriptive and exploratory value. Along the same lines, a study that combined an assessment of the child by Parents, Teachers and Psychologist would also be of value.

As mentioned earlier in the section on the problem of creativity measurement, it is also suggested that a more comprehensive and global measure of creativity be obtained so as to strengthen the conclusions drawn in relating this to ego functioning.

An important and interesting theoretical assumption was encountered in the course of this study and this related to the Kleinian view of Reparation in the Depressive position. The reparative act in real life or in the individuals' fantasy, is seen as a primary basis for creativity in that the lost or damaged object is restored by the creative process in the ego. These reparative processes are seen by Klein as "the mainspring for sublimations throughout life". (1952 p. 83). A phenomenological study that explored both the context and the content of creative productions or spontaneous fantasies and daydreams for reparative themes may be of use in this regard, but would of course pose methodological problems.

A further suggestion that is linked to the above is to examine the creative process as it manifests in the clinical or pathological picture. The present study implies a connection between creativity and mental health or the state of full psychological functioning. Creativity is seen as both having a healing function as well as being a manifestation of health. Therefore the failure to function creatively in states of pathology or else the working of creativity under

these circumstances may be areas of fruitful research. An analysis of creative fantasy play in the arena of child psychotherapy may yield important insights into the healing function of the creative process.

6. Summary and Conclusions

This study aimed to examine the ego functioning of creative children with a view to testing various theories of creative functioning. A review of the development of these theories from Freud's writings at the beginning of this century to more current conceptions of creativity as a function of ego-processes, attempted to show the evolution of the theory on Creativity.

The theories examined suggested that creative individuals would (a) exhibit more Tolerance of Ambiguity in their thinking and emotional functioning, (b) would show more Regression in the Service of the Ego and (c) would be significantly more empathic than low-creative children.

A conception of ego functioning was developed, based upon the writing of Norma Haan (1977). An

attempt was made to show the shift in emphasis that has taken place both in thinking about creativity as well as in the neo-analytic theory in general, towards a far more developed and comprehensive view of the role of Ego in everyday functioning. The ego is seen within the view of Constructivist Man as having autonomy and intellective, creative ability, rather than being a mechanical "director of traffic" between the systems of psyche. Within this view, the role of Ego in creative functioning is emphasised in this study.

The particular ego functions based upon the theory discussed were measured by having the children's mothers rate them on the Haan Q-Sort of Ego Processes. A measure of the child's creativity was obtained using three selected activities from the Torrance Tests of Creative Thinking. A number of other ego functions were also examined in an investigative process secondary to the main hypotheses. The correlations between Creativity and the various Ego functions were calculated.

Statistical analysis of the results failed to show any support for the hypotheses. This was attributed partly to the bias by the mothers rating their children in the direction of social desirability of certain ego functions as well as possibly to their perceived expectations of the researcher. It is suggested that these phenomena occurred as a function of the difficulty the mothers experienced in using the Q-Sort which may be better employed by trained professionals.

Only on the ego function of Substitution did a significant correlation emerge where Substitution was negatively correlated with Creativity. This result suggested to the research that (a) Children who use substitution a lot in their repertoire of ego functioning tend not to be creative and/or (b) mothers who value substitution as socially desirable and parent their children to this end, may tend to stifle creativity in their parenting styles.

A discussion of the results and limitations of the study followed with a consideration of methodological problems in the measurement of both Personality and Creativity, as well as a review of problems specific to the present study. Suggestions were made for further research that relate to the theory reviewed in this study.

Due to the methodological problems encountered in this research, no strong conclusions can be drawn regarding the validity of the theories discussed. The work of theorists and researchers from Freud's day to the present do remain however as valuable models in understanding and working clinically with the c mplex and potentially elusive phenomena of Creativity.

APPENDIX I

SIMPLE STATISTICS

VARIABLE	N	MEAN	STD DEV
TOA	60	14.183333	3.716622
EMP	60	19.250000	3.610836
RISE	60	20.533333	2.965717
PROJ	60	13.933333	3.874588
DEN	60	12.833333	3.184532
CONC	60	15.783333	5.168653
SUBL	60	18.883333	3.355197
SUBS	60	17.166667	3.888997
REPR	60	11.583333	3.391373
CREAT	60	74.316667	23.574256

Key

TOA - Tolerance of Ambiguity

EMP - Empathy

RISE - Regression in the Service of the Ego

PROJ - Projection

DEN - Denial

CONC - Concentration

SUBL - Sublimation

SUBS - Substitution

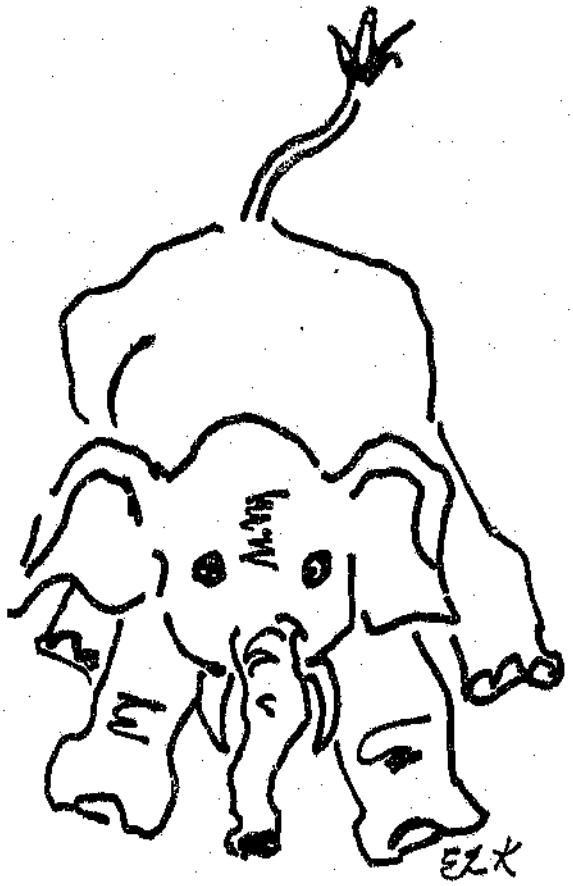
REPR - Repression

CREAT - Creativity

APPENDIX II The Torrance Tests of Creativity

Activity 4: PRODUCT IMPROVEMENT

In the middle of this page is a sketch of a stuffed toy elephant of the kind you can buy in most dime stores for about one to two dollars. It is about six inches tall and weighs about a half pound. In the spaces on this page and the next one, list the cleverest, most interesting and unusual ways you can think of for changing this toy elephant so that children will have more fun playing with it. Do not worry about how much the change would cost. Think only about what would make it more fun to play with as a toy.



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Activity 5: UNUSUAL USES (Cardboard Boxes)

Most people throw their empty cardboard boxes away, but they have thousands of interesting and unusual uses. In the spaces below and on the next page, list as many of these interesting and unusual uses as you can think of. Do not limit yourself to any one size of box. You may use as many boxes as you like. Do not limit yourself to the uses you have seen or heard about; think about as many possible new uses as you can.

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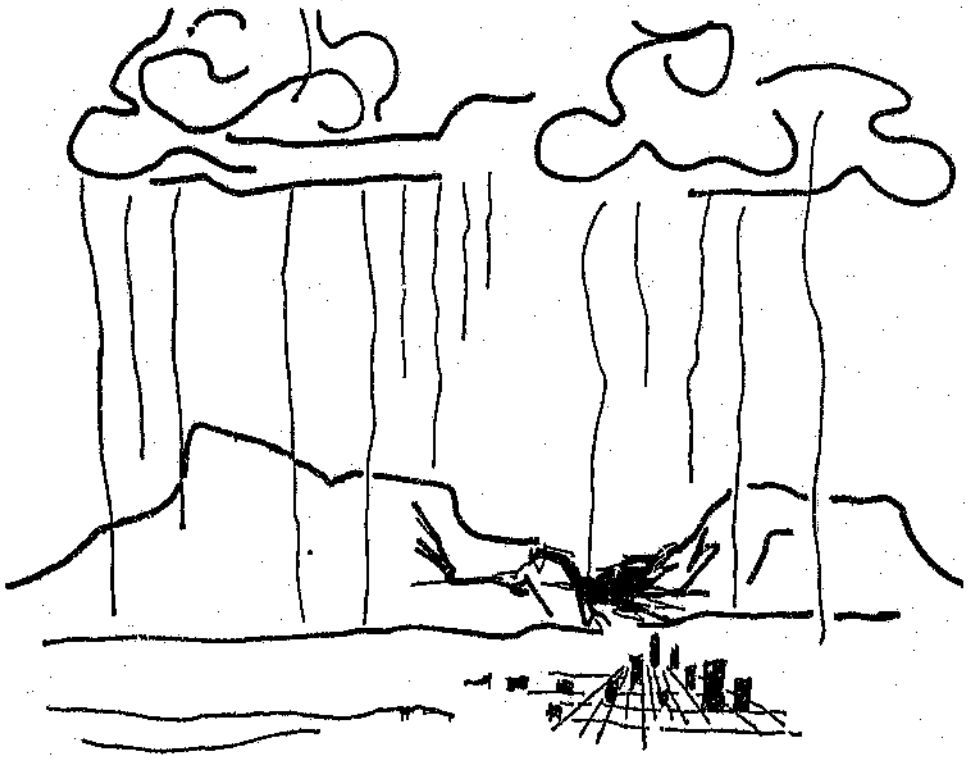
Activity 7: JUST SUPPOSE

You will now be given an improbable situation—one that will probably never happen. You will have to *just suppose* that it has happened. This will give you a chance to use your imagination to think out all of the other exciting things that would happen IF this improbable situation were to come true.

In your imagination, *just suppose* that the situation described were to happen. THEN think of all of the other things that would happen because of it. In other words, what would be the consequences? Make as many guesses as you can.

The improbable situation—JUST SUPPOSE *clouds had strings attached to them which hang down to earth.* What would happen? List your ideas and guesses on the next page.



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Appendix III Q Sort of Ego Processes:
Coping and Defense

Item Listing

COGNITIVE FUNCTIONS

Objectivity

1. Distinguishes between his own feelings and the facts of situations
2. Views self in an objective light
3. Evaluates both sides of arguments, including those contrary to his own point of view

Isolation

4. Fails to see connections between related ideas
5. Compartmentalizes his feelings
6. Misses connections between feelings and ideas

Intellectuality

7. Lets mind roam freely to consider possibilities (low if restricted in range)
8. Applies abstract, formal ideas in solving problems (low if thinks concretely)
9. Attempts to get at the "truth," even if it is against his own self-interest

Intellectualization

10. Produces intellectualizations rather than cogent solutions
11. Applies abstract ideas and terms to situations to avoid feelings
12. Produces intellectualizations which seem self-serving

Logical Analysis

13. Deduces seemingly accurate consequences of an event (place low if either not interested or inaccurate)
14. "Backtracks" to reconstruct a plausible chain of events (low if doesn't use past to understand present)
15. Gives seemingly accurate reasons as to why interpersonal events arose (low if not interested, or inaccurate)

Rationalization

16. Deduces unlikely and possibly self-serving consequences of events (low if rational)
17. Offers unlikely reasons for his past actions (low if not interested or accurate)
18. Reconstructs implausible chains of events (low if not interested or accurate)

INTRACEPTIVE FUNCTIONS

Tolerance of Ambiguity

19. Can defer decisions in complicated situations (low if unable to make decisions or acts on spur of moment)
20. Tolerates uncertainty in the structure and rules of situations (low if needs certainty)
21. Able to wait for other people to make up their minds in complicated situations; tolerates indecision or slowness in others

Doubt and Indecision

22. Unable to commit self to personal courses of action even when possible to do so (place low if action oriented)
23. Rethinks what he or she has already decided (low if decisive)
24. Has a tentative attitude toward problems and human relations

Empathy

25. Tries to understand others' feelings and perceptions (low if oblivious to others' feelings)
26. Reacts sensitively to others' feelings
27. Anticipates others' reactions to situations with accuracy, that is, can put himself in other fellow's boots

Projection

28. Preoccupied with the possibility that others will act badly
29. Feels accused and criticized by others
30. Vigilant in "ferreting" out others' reactions

Regression in Service of Ego (Playfulness)

31. Enjoys surprising aspects of situations, for example, situational humour, or sudden insights
32. Plays with ideas, and feelings without being constrained by situational demands (low if constrained by situations)
33. Integrates past memories with present to enhance his understandings

Regression

34. Seems to expect that he will be cared for in difficult situations
35. Acts non-age-appropriate in some situations or in important relationships (low if in charge of self and situation)
36. Views self as not being responsible in difficult situations

ATTENTION-FOCUSING FUNCTIONS

Concentration

37. Focuses attention and effort on most relevant problems of situations

38. Completes tasks even if he must set aside interesting distractions (low if acts on whims)

39. Organizes self to complete tasks according to work plans

Denial

40. Oblivious to complex, problematic nuances of situations

41. Ignores aspects of his situations that are potentially threatening

42. Focuses attention on the pleasant aspects of problems and ignores others, for example, "Every cloud has a silver lining"

Sublimation

43. Can express aggressive, even hostile feelings when the situation needs and warrants it

44. Expresses warm feelings toward a variety of activities and people

45. Expresses feelings in a variety of satisfying, socially tolerated ways

Displacement

46. Displaces feelings in form (e.g., stomach ache instead of temper tantrum) or in object (kicks dog instead of boss)
47. Misdirects positive, warm feelings from original aims or object (e.g., dogs are better than people)
48. Expresses aggressive, even hostile feelings in nonrelevant contexts and objects (irrelevant irritability)

Substitution

49. Acts fairly, even in trying circumstances
50. Acts civilly even in trying circumstances
51. Regulates expression of feelings proportionate to the situation

Reaction Formation

52. Acts with conformity in most circumstances
53. Acts with such fairness that legitimate self-interest seems negated (e.g., masochistic)
54. Acts with excessive moderation in circumstances that seem to warrant expression of feeling

Suppression

55. Suppresses, but is aware of feelings and thoughts in most circumstances (low if expresses or unaware of feelings

56. Controls expression of affective reactions when not appropriate to express them, for example, older person not hurting children even when provoked

57. Inhibits his reactions for the time being when appropriate

Repression

58. Constricts and inhibits his cognitive associations

59. Forgets aspects of trying circumstances

60. Unable to recall painful experiences

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