CHAPTER II
REVIEW OF RELEVANT RESEARCH

The Perspectives

I - THE THEORETICAL PERSPECTIVE

(a) Disadvantage

A. S. Dash has been conducting research on the development and education of disadvantaged children belonging to lower SES, lower caste, tribal, and slum backgrounds; deprived children (i.e., orphan/ destitute) ; children growing up in pathological home and parenting conditions like living with an alcoholic father; and handicapped children consisting of visually-impaired/ blind, audio-vocally-impaired/ deaf-mute, and orthopaedically-impaired groups; since the early 1970's at Utkal University, India (Rath & Dash, 1973; Rath, Dash & Dash, 1979; Dash & Hariharan, 1988, Dash, 1989; Nanda & Dash, 1996). These studies have accumulated enormous amount of data on

(a) Needs and aspirations,

(b) Home environment, family effectiveness, and social support networks,

(c) Cognitive, social-affective, academic, and physical-conative abilities and disabilities, competencies and incompetencies, an vulnerabilities and invulnerabilities;

(d) Coping and adaptation efforts, approaches, and styles; and

(e) Compensation, remediation, education, and counselling strategies. Integrating the results of these investigations, Dash recently presented a synthesised developmental theory that integrates concepts/ constructs of disadvantage, stress, frustration, conflict, and crisis (see Dash, 1996; Nanda & Dash, 1996; Nayak, 1997). The salient points of this theory can be briefly stated as follows.
First, such diverse concepts like disadvantage, stress, frustration, conflict, and crisis may be conceptualised as hierarchical levels of "Psychologically Critical Life Situations or PCLS". Second, the PCLS may be distinguished from endogenous "Psychologically Critical Life Conditions or PCLC" like handicaps, disabilities, and dysfunctions. Third, the PCLS and PCLC may be viewed/understood and defined in Sattwik (integral, de-centred, universal), Rajasik (differential, socio- or ethno-centric), and Tamasik (egocentric) ways. Fourth, only the Sattwik knowledge helps us to understand the negative, painful, and detrimental as well as positive, pleasant, and growth-promoting effects of the PCLS/ PCLC. Fifth, the PCLS/ PCLC may be analysed and understood following the Vedantic and Buddhist methods of analyses of pain and suffering that led to the Chatuh Arya Satya or 'four cardinal truths', such as "Heya: Dukha, Hetu: Dukha Samuchaya, Hana: Dukha Nirodha, and Hanopaya: Dukha Nirodha Pantha". Sixth, the PCLS/ PCLC are caused by mostly three classees of factors, such as the Adhyatmika/ internal/. personal, Adhibhautika/ known-external/ ecological-environmental/ social-cultural, and Adhidaivika/ unknown-external/ super-natural causes. Seventh, the PCLS/ PCLC, interacting with the competencies and incompetencies of the person, produce both negative/ detrimental as well as positive/ growth-promoting effects; and invulnerability is the positive contribution of the PCLS/PCLC. Eighth, the PCLS/ PCLC may be approached, studied, and understood intuitively through reflection, empirically through observation/apperception, and experientially through experiencing.
Ninth, adapting, defending, coping, suffering, and experiencing are the various ways of confronting, managing, and withstanding the PCLS/ PCLC.

Tenth, different types of experiencing seem to be adopted based on the interaction between the complexity of the individual's internal life-world and the criticalness of the external life-world.

Finally, the conclusion derived from the findings of these studies holds that the PCLS/ PCLC, by repeatedly 'trying/testing' the individual and, thus, by bringing out the best and excellent that are within her/him; help to nurture, develop and manifest her/his inherent invulnerability.

Human life is encircled with so many problems, frustrations, conflict, crisis, and the ignorance from the day individual is born till the life is ended up into ashes. In every phase and in each step of our lives we face numerous critical life situations (CLS) in our biological, physiological, survival, psychological, and spiritual realms. We are in constant threat, stress, frustration, conflict for our survival and security. Human life is full of sorrows, miseries, misfortunes, and sufferings; still the striving for the search of peace, joy, and eternal bliss is an ungoing process it continues. We have our limitations in every aspects of our lives. Every moment all our activities are directed towards solving, adjusting, and over-coming the problems that we face.

Empirical Perspective:

Though we see, know and observe these invulnerable specimen around us but no sincere and serious attempts have been made to study them from different angles like their intellectual abilities, how do they perceive the world, what are their mode of
actions in different problematic situations, and how do they cope with and balance themselves in turmoil, sorrow, stress, strain, and criticism; what are their feelings and reactions to inequalities, and injustice caused to them either by their fate, family and authorities. Previously the study of invulnerable children were the work of clinicians, but today the interest of researchers have been shifted from the disease entities towards the positive psychosocial domain such as intelligence, competence, cognitive style, coping, creativity, and confidence. Werner and Smith (1982) described invulnerable children as "invincible" or "resilient". Resiliency refers to an ability to recover from or adjust easily to misfortune. Invulnerable children are assumed to possess a very high effectance motive that is an overall motive to produce a decided, decisive, and desired effect. It is argued that invulnerable children have superior coping skills for adaptation under relatively difficult circumstances in the face of challenges, frustrations, and threats (White, 1973). Anthony (1973) regards invulnerability as high competence in high risk. Garmezy (1970) as competence amidst disadvantages. Rutter (1978) as stress resilience and Smith (1982) self righting tendencies within children that produced normal or even superior development under all but most persistently adverse circumstances.

The above statement and definitions highlight two important aspect which come into the area of the concept of invulnerability personal strength or resources and environmental demands. Various research findings have shown that some people who have passed through frustrations, sorrows, handicapping conditions, emotional torture grew up to be competent, and even successful human beings contrary to what social scientists once believed. These type of children are labelled as 'lotus in the
Many researchers have made extensive attempts to identify the invulnerable children. The invulnerable children showed more cognitive and social competence despite their economic and social familial disadvantages and stresses (Werner & Smith, 1982). In fact this competence can be inferred from the studies of Weintraub and Robins (1966). Unless a person is competent enough they cannot explore the environment both physically and psychologically and exercise power over it by drawing the maximum from it. Invulnerability and vulnerability is not related to certain innate or acquired superiority in performance but rather to a harmony between internal and external environment and to a capacity to accommodate flexibly to change. Murphy and Moriarity (1976) have concluded that normal development seems to be a complex outcome of interaction between the balance of vulnerabilities and strength and their interactions with stresses and support from environment. Garmezy (1970) tried to find out the specific immune system that protect and spare a few of these children coming from the same setting who came out as invulnerable.

(b) Cognition

The integral perspective of the classical Indian Vedantic psychology which integrated the opposites and resolved the contradictions like Vidya & Avidya, Sambhuti & Asambhuti, Purusha & Prakriti, Jnana & Karma, Annam/ Matter & Brahman/ Spirit, Lasya/ Eros & Tandava/ Thanatos, etc. may be able to shed light on the confusions surrounding many of the concepts in psychology in general and cognition in particular. The Vedanta uses two separate terms to refer to knowledge or cognition: Prajna, i.e., experiential or intuitive knowledge or wisdom; and Jnana, i.e., knowledge acquired through logical reasoning with the aid of the
senses. The Bhagavad Gita, synthesising the Vedanta and other schools of thought, states that knowledge may be of three types: Sattwik (integral, de-centred, universal), Rajasik (differential, socio- or ethno-centric), and Tamasik (egocentric). It has been further stated that knowledge can be attained through three paths: through Karma or action, through Bhakti or affection, and through pure Jnana or knowledge based on logical reasoning. In this century, Piaget, Vygotsky, and Bruner have independently arrived at the conclusion that cognition may be of three types developing in relatively invariant stages: the sensori-motor/ egocentric/ enactive purely physical and private knowledge, the intuitive/ sociocentric/ iconic somewhat magical knowledge, and the formal-operational/ decentric or universal/ symbolic mostly logical knowledge. Cognition refers to the mental process through which knowledge is acquired, processed, organised, stored, and retrieved. Cognition, as the process of gaining information and understanding of the world, covers all the various modes of knowing: perceiving, remembering, imagining, conceiving, judging, and reasoning. Cognition involves two complementary mental functions: representation through perception, imagination, and conceptualisation; and comprehension or understanding and explanation. The cognitive action determines the object (Jneya) as such, and differentiates between that which is known (Jnana) and the person who has cognizance of it (Jnata). Cognition, therefore, contrasts with the pure subjectivity of the status of consciousness, because it merely aims at revealing the truth. Thus, cognition is used to mean the process as well as the product of knowing.

While some psychologists, like Jean Piaget, have used cognition, knowledge, and intelligence interchangeably; others have viewed cognition as a broader, global process and intelligence as a more
specific process. In Indian psychology, intellect or Buddhi has been regarded as one of the inner-organs or Antah-karana, along with Mana (mind), Chittah (subconscious memory), and Ahamkara (ego-sense). The function of the intellect or Buddhi is to differentiate, discriminate, evaluate, order, and classify information acquired through the five Jnanendriyas or Buddhiindriyas such as the eyes, ears, nose, tongue, and skin.

Intelligence was originally defined as the ability to adapt effectively to the environment and the ability to benefit from learning/instructions. Later, it came to be defined as that which an intelligence or I.Q. test measures. Because of the accumulating controversies and confusions relating to psychometric intelligence-testing approach, various other approaches like the information processing approach and the cognitive developmental approach gained popularity. While psychometricians were concerned with individual differences in intelligence, cognitive developmental psychologists were more interested in the development of the process of knowing, thinking and reasoning; and information processing theorists studied the processes of information acquisition, organisation, storage, and retrieval. Intelligence was also thought to be of two types: general and specific, fluid and crystalised, verbal and nonverbal or performance, level I and level II, and successive and simultaneous, etc. Later, the possibility of multiple intelligences was suggested by the "Structure of Intelligence" model of Guilford. Recently, Howard Gardner (1983) presented his theory of seven types of intelligence (bodily-kinesthetic, spatial, linguistic, logico-mathematical, musical, personal/self-related, and inter-personal/social) in his book entitled...
Frames of Mind: The Theory of Multiple Intelligences.

The psychology of intuition/reflection flourished remarkably in ancient India. In the Isha Upanishad (Dash & Pati, 1994), which is a part of the Yajur Veda, we are asked to first master and then transcend Vidya (intuitive knowledge) and Avidya (empirical or analytical knowledge). In the psychology of Buddhism, intuition has been described in this way: "It is not logical thinking, but only a higher consciousness or bodhi which resolves the contradictions in which the lower thought, bound up with the activities of the senses, is hopelessly involved" (Lama Govinda, 1969, p.36). In the ancient Chinese thought, intuition has been referred to as "wide and far-reaching penetration of consciousness". Philosopher Chu Hsi of the Lu-Wang school condemned both meditation and introspection. He argued that meditation is based upon fallacious assumption that reality reveals itself only when thought is cut off, and introspection would mean splitting the mind into two parts, one to observe and the other to be observed. Therefore, intuition is not self-introspection, but, rather, the extension of one's mind to embrace the whole universe. Ornstein (1973) has said, "Two major modes of consciousness exist in man, the intellectual and its complement, the intuitive." In the West too, reflective psychology had been established long before the rise of empirical, experimental psychology. In striking contrast to Indian reflective psychology, the Western studies made observations of the various states of the human mind without any critical evaluation. The Westerners consider the human mind capable of being studied objectively as behaviour patterns of the body, while Indians deny its objectivity and understand all mental processes as qualifying the subject experiencing them (Nakamura, 1964, p. 155).
In the current psychological understanding, intuitive/reflective and analytical/logical thinking may be distinguished on the basis of three criteria:

(a) the temporal — the time of the process's duration,
(b) the structural — division into stages, and
(c) the level of the process's development — awareness or lack of it.

Analytical thinking evolves in time limits, has clearly defined stages, and is, to a considerable degree, represented in the thinker's consciousness. Intuitive thinking is characterised by speed of the process, lack of clearly defined stages, and minimal degree of awareness (Tikhomirov, 1984). Recently, a good number of studies have established the relation between brain and styles of information processing. Traditionally, our child-rearing and education system have been emphasizing the training of the left hemisphere which is responsible for critical thinking, thus completely ignoring the right side. Recent studies of Torrance (1982) have shown that the right hemisphere of the brain seems to be responsible for creative ways of processing and using information. This massive body of research calls for an alternative research and education strategy for identifying and nurturing gifted and talented children. In this context, Hillard (1976) has set forth some basic assumptions about human behavioural styles, or the frame work from which people view the world. Hillard has distinguished between Black and White children's cultural and learning styles. Some of the typical features of the Black children's learning and thinking styles are: they are highly affective, they seem to prefer inferential reasoning rather than deductive or inductive reasoning, they appear to focus on people and their activities...
rather than objects, they tend not to be "word" dependent, they
are sociocentric, and they use internal cues for problem solving.
Other researchers (e.g. Cohen, 1971; Hillard, 1976) have also
found evidence for two learning styles, such as: analytical and
relational. Most schools require an analytical (consisting of
rules, conformity, precision, logical, atomistic, egocentric,
convergent, controlled deductive, sign oriented, etc.) approach
to learning. Particularly the disadvantaged children who
function with a different cognitive style or who have not
developed analytical skills will be poor achievers early in
school and will do worse as they move to higher grade levels.
These researchers also strongly suggest that disadvantaged
children seem to have the relational (consisting of freedom,
variation, flexibility, approximate, psychological, global,
sociocentric, divergent, expressive, inductive, meaning oriented,
etc.) cognitive style. So, appraisal of disadvantaged children's
competence and maturity needs a different outlook and strategy.
The Vedantic Psychology states that consciousness (Chit or
Chetana or Chaitanya) is the defining property of an individual
being or Atman, thought of as Sat-Chit-Ananda or existence-
consciousness-bliss by nature. Therefore, every individual being
is an undifferentiated consciousness centre. Thus, we come to
the conclusion that cognition is of three types: Action or
Karma: (similar to Piaget's notion of sensori-motor cognition and
Vasilyuk's concept of experiencing), intuition/ reflection
(encompassing Bhakti which includes 'contemplation-as-emotion' or
the so-called 'emotional intelligence') and logico-mathematical/
formal/ abstract thought or Jnana derived through the Jnana-/ 
Buddhi-indriyas; which, in fact, define the total functional
regime of consciousness. To illustrate this, let's classify both the Observer and the Observed into Active Subject and Passive Object. We end up with four categories:
(1) When both the observer and the observed are of an active, subjective nature; consciousness functions as an active observer, seizing upon its own activity. This is what we call intuition or reflection.
(2) When the observer is the active subject and the observed is the passive object; real content is presented to us in apprehension, which is a special act of observation.
(3) When the observed (e.g. the PCLS) is active and is therefore the logical Subject; and the observer, on the contrary, only passively feels or suffers the effect of what is presented, and therefore appears logically as the passive object; we encounter experiencing, which is "presented of itself" or comes of its own force; and is not reached by any effort or act of apprehension or reflection.
(4) When both the observer and the observed are passive objects, observation as such disappears - giving the logical structure of the concept of the unconscious. From this standpoint, one begins to understand physicalist ideas of the unconscious as being the site of silent interaction between things and psychological forces.
(c) Competence
The term Competence was proposed by a number of psychologists (e.g. Hunt, White, Zigler, etc) in stead of or as a substitute for the term intelligence; because of the controversies concerning intelligence-testing and I.Q.. White formulated the concept of competence/ effectance/ mastery motive underlying the capacity to effectively resolve problems presented in daily life that would lead to a sense of mastery and positive self-esteem.
Confronting the PCLS boldly with a positive mind-set, utilising the external/environmental as well as internal/personal resources or assets appropriately to achieve desired developmental outcomes, and managing the PCLS effectively and experiencing them creatively — may be considered to be the salient defining characteristics of the competent individual (see Nanda & Dash, 1996). There are two complimentary sets of definitions of competence. The first refers to personal characteristics (knowledge, skills and attitudes) or learned attitudes and aptitudes which lead to adaptive pay-offs in PCLS manifested as capacities for confronting and actively struggling with and mastering the PCLS through the use of cognitive and social skills. The second focusses on the emotional and motivational significance of an individual's appraisals and expectations of his/her adaptive abilities rather than on the abilities themselves. Individuals make distinctions between their competencies in various domains. The self-conceptualisation of competence depend on the recognition of possibilities. Thus, it would be predicted that symptoms will emerge when individuals sense that the competencies by which they define themselves are insufficient to meet external demands. A person's knowledge, attitudes and beliefs about his/her competencies, and adaptive skills jointly and interactively determine his/her performance and its outcomes (see Nayak (1997)).

(d) Coping and Experiencing

Coping has been defined variously:

(i) As the ways of thinking, feeling, and acting — the cognitive, affective, and behavioural efforts — undertaken consciously or unconsciously, intended to master, reduce, tolerate, overcome, and thus, experience the internal and external demands of the
PCLS. While the psychoanalysts emphasized the defense mechanisms such as repression, reaction formation, projection, etc. having anxiety-reduction functions and the cognitive theorists emphasized cognitive control of actions and emotions, the behavioural psychologists laid stress on actual actions such as escape, avoidance, distraction, etc. involved in managing and overcoming stress and anxiety.

(ii) As the application of a person's acquired knowledge/thoughts, attitudes and emotions, and skills/techniques/actions that enable the individual to handle difficult PCLS (see Arora, 1997; Nayak, 1997).

(iii) As a process having cognitive, affective, and behavioural components whose functions are aimed at overcoming/mastering/reducing/managing/tolerating the internal and/or external demands that are created by the individuals' transactions with PCLS and are appraised as taxing or exceeding the resources of the person.

(iv) As a 'trait'/ 'style'/ 'strategy' referring to what the person actually does in a particular encounter, implying that a trait/style/strategy which serves effectively in producing positive outcomes at one stage of a stressful episode, might become ineffective having negative consequences at times. In coping, personal resources are used to manage tension generating events in an effort to maintain or enhance feelings of well-being.

Coping serves various functions:

(1) To keep securing adequate information about the environment,
(2) To maintain satisfactory internal conditions for processing information and acting/responding accordingly, and
(3) To maintain autonomy or freedom of movement.
Other functions of coping are:

(i) dealing with social and environmental demands,
(ii) having the motivation to meet such demands, and
(iii) maintaining a state of psychological equilibrium in order to
direct energy and skill towards meeting external demands.
(a) changing the situation out of which stressful experiences arise,
(b) controlling the meaning of such experiences before they become stressful, and
(c) controlling stress itself after it has been generated.
(a) to reduce harmful environmental conditions and enhance prospects of recovery,
(b) to tolerate or adjust to negative events,
(c) to maintain a positive self image,
(d) to maintain emotional equilibrium, and
(e) to continue satisfying relationships with others.

Coping has various types/modes:
(a) Problem-focused coping refers to efforts directed at doing something constructive about the conditions that harm, threaten, or challenge.
(b) Emotion-focused coping refers to the efforts directed at regulating the emotion itself, whether the focus of such regulation is behaviour and expression, physiological disturbance and subjective distress or all three. Emotion-focused coping can be used to alter the meaning of a situation and thereby enhance the individual's sense of control over her/his distress. Theoretically, the effectiveness of problem-focused efforts depends largely on the success of emotion-focused efforts. Otherwise, heightened emotions will interfere with cognitive activity necessary for problem-focused coping.
Direct actions involving fight or flight are used to alter a troubled relationship with social or physical environment; including any concrete act like running away, arguing, taking drugs, etc.;

(d) Palliative coping modes involve thoughts or actions that relieve the emotional impact of stress without actually changing the threatening situation.

(e) Information seeking, which involves trying to learn more about the problem and about what can be done to deal with it;

(f) Inhibiting action, which is the opposite of direct action such as, refraining from impulsive action, as in expression of anger;

(g) Intra-psychic processes involving ways of reappraising the situation, deploying attention, or seeking alternative routes for gratification, also including those processes traditionally viewed as defence mechanisms such as, denial, intellectualisation, etc.; and

(h) Seeking social support, i.e., turning to others for help or consolation that may enhance one's efforts to deal with stressful events or one's feeling of well being. These modes of coping are more frequently used in most types of stressful events and situations. Some of the conceptually distinct coping strategies suggested in the research literature include the following:

(1) Active coping, which is similar to problem-focused coping, is the process of taking active steps to try to remove or circumvent the stressor, including initiating direct action, increasing one's efforts, and trying to execute the coping process stepwise.

(2) Planful coping, which is a type of problem-focused coping, involving planning which may include pondering, contemplating, reflecting, and/or thinking (but, not brooding or worrying) about what steps to be taken and how best to handle the stressful
situations, and coming up with appropriate actions and strategies.
(3) Coping through suppression of competing/conflicting channels
of information processing or modes of responding and trying to
avoid becoming distracted by other things, is a sub-type of
problem-focused coping.
(4) Restraint coping is also a form of problem-focused coping,
involving patiently waiting for an appropriate opportunity to act
and holding oneself back by not acting prematurely.
(5) Coping through social support, which is relevant to problem-
focused coping, involves seeking advice, assistance, or
information from others.
(6) Coping through emotional support, which is emotion-focused
coping, involving seeking moral support, sympathy or
understanding. Seeking social and emotional support often co-
occur (Aldwin & Revenson, 1987), the sources of emotional
support more often being used as outlets for the ventilation of
one's feelings. There is evidence that using social support in
this way may not always be very adaptive (Berman & Turk, 1981;
Billings & Moos, 1984; Costanza, Derlega & Winstead, 1988).
(7) Coping through focusing on and venting of emotions is the
tendency to focus on whatever distress one is experiencing and to
ventilate the feelings.
(8) Coping through behavioural disengagement involves reducing
one's effort to deal with the stressor, even giving up the
attempt to attain goals with which the stressor is interfering.
It is likely to occur when people expect poor coping outcomes.
(9) Coping through mental disengagement, expressed through a wide
variety of activities that serve to distract the person from
thinking about the behavioural dimension with which the stressor
is interacting, when conditions prevent behavioural disengagement (Carver, Peterson, Follansbee & Schier, 1983).

(10) Coping through positive reinterpretation is considered as a form of emotion-focused coping aimed at managing distressing emotions rather than dealing with the stressor through self control, positive evaluation, and personal growth (Lazarus & Folkman, 1984).

(11) Coping through denial is a somewhat controversial form of coping, but it is often suggested to be useful in minimising distress and thereby facilitating coping (Breznitz, 1983; Cohen & Lazarus, 1973). Denial creates additional problems unless the stressor can profitably be ignored. Denying the reality of an event allows the event to become more serious, thereby making more difficult the coping that eventually must occur. Denial may appear useful at early stages of a stressful transaction but impedes coping later on.

(12) Coping through acceptance is compromising with the reality of a stressful situation in an attempt to deal with it successfully.

(13) Coping by turning to religion is often quite important to many people because, it probably serves as an emotional support or as a tactic of active coping through positive reinterpretation of the situation/self. Another distinct type/mode of coping may be added,

(14) Coping through humour. Humour and laughter deserve to be mentioned among the basic human capacities of maintaining total well-being, adaptation, and coping. Quoting Gordon Allport, Viktor Frankl (1946/1955) suggests that "The neurotic who learns to laugh at her/himself may be on the way to self-management, perhaps to cure". (p. 225) Development of Coping, according to Garmezy's (1983), who studied 'stressors of childhood', seems to
be determined by three protective factors: (a) competence encompassing positive personality dispositions, (b) supportive family milieu, (c) external social agencies which act as a support system for strengthening children's coping efforts. Rutter (1987) concluded that the protective factors can only be available by the use of potentially supportive resources. Some individual characteristics like age, sex, intelligence are important protective factors. It was found that more intelligent children were more resilient with better coping ability and also younger children cope better than the adolescents. Murphy (1962) emphasised the importance of children's learning to cope with a variety of new situations which they encounter as they grow up; and also master over the environment with self-pride, esteem and pleasure. It is relevant too that adaptability and malleability are among chief temperamental characteristics which protect against psychiatric disorders in childhood. Children are therefore able to mould, manipulate the environment assertively to deal with its pressures successfully and/or to comply with its demands passively and dependently. "Good copers" are those who are cognitively capable, affectively expressive, effective and attitudinally responsive in a wide variety of ways (Murphy & Moriarity, 1976). It has been found that girls use more social support and emotional behaviour in stressful situations, whereas boys use more physical activities to deal with stressors (Ryan, 1989).

Coping is a type of Experiencing (i.e., realistic experiencing) adopted by an internally simple individual in a complex and difficult life-world/ PCLS like disadvantage or stress, argued Russian psychologist Vasilyuk (1988). A PCLS may be approached through intuition, empirical observation, or/and experiencing.
Experiencing in PCLS should be seen as a matter of the individual's "personal investigation", which is not purely cognitive in intent, nor is it intellectual in method. It is trying to find answers not to universal questions but to questions of vital interest to the individual, in a given PCLS, at a particular time. It is not "rational cognition", but probing of internal and external bounds of possibility, a testing-out of the world and the self. The points at which experiencing becomes essential are always points on a borderline, where the individual comes up against a reality "such as never was", to which s/he has no answer. Thus, such points require creativity and can become growing points of the personality - points where "new conscious experience" is built and where wisdom can be gained.

In the Vedanta and Samkshya schools of Indian philosophy and psychology, the state of absolute extinction of pleasure and pain is attainable only when the individual functions as a drasta (seer) or sakshi (witness) or sthita-prajnya (steady). In Viktor Frankl's (1984) words, "For what then matters is to bear "witness" to the uniquely human potential at its best, which is to transform a personal tragedy into a triumph, to turn one's predicament into a human achievement. When we are no longer able to change a situation - just think of an incurable disease such as inoperable cancer - we are challenged to change ourselves" (p. 116). Vasilyuk has categorised four types of experiencing, based on dichotomous classifications of 'internal Life-world' and 'external Life-situation' of an individual.

First, Hedonistic Experiencing, which occurs in an internally simple and externally easy life-world. Here, the human being's whole internal necessity is immediate satisfaction of any need which takes place directly and immediately, encountering no
obstacles either from external forces or from other needs. Sigmund Freud called "it as the pleasure principle", with the set towards here-and-now satisfaction.

Second, *Realistic Experiencing or Coping*, which is called for in an internally simple and externally difficult life-world where the good things of life are not presented directly. The external environment is full of barriers, hindrances and resistant objects which prevent need-satisfaction. If life is to go on, these obstacles have to be surmounted. And the basic, general rule in solving this constantly renewed life-problem lies in adequate reflection of reality, so that activity may be structured in accordance with reality. This accordance with reality in a difficult PCLS is the essential condition of existence and life preservation. Subordination to the dictates of reality here becomes the law and the principle of life, "the reality principle". Psychology of fanaticism describes the typical behaviours of the individual confronted with such a life-world: frantic behaviours, readiness to sacrifice all, and to use any means to attain the object, coupled with a narrow and limited perception of the world.

Third, *Value experiencing*, which usually occurs in the internally complex and externally easy life-world. It may be noted here that objective complexity of the life-world does not of itself bring about internal, subjective complexity of that world. Here, the external world yields to action by the individual with absolute ease and this renders impossible any finite action, just as finite movement is impossible in an absolute vacuum. It is either absent or it is infinite owing to the absence of resistant forces. The "value principle" is, therefore, is the supreme principle of this life-world. Value experiencing requires the cognitive ability "to comprehend life overall and perceive in it
that which is truly significant. It is something surpassing any learning, it is that priceless quality Wisdom. Wisdom, as a special ability to comprehend, differs from ordinary cognition. Wisdom, in principle, is reflexive. It is expressed in its inward thurst towards self-deepening and self-knowledge. Its justificatory basis being also in the self. Wisdom's criteria for assessing truth are purely internal.

Finally, Creative Experiencing, which usually takes place in the internally complex and externally difficult life-world. The principle of creativity is, in fact, the higher principle of this type of life-world. Rank (1936) first drew attention to creativity in everyday life and suggested that individuals engage in integrative, original, and creative ways to act upon, and not merely react to, the environment and their life conditions. He noted the difficulties of "letting go" of safe or comfortable behaviours to try new ways of attending to reality. Rank considered emotional well-being to result from a creative synthesis of autonomy and intimacy and reserved the term "artist" for the psychologically healthy. The special psychic process in operation here is the "will". The will is of its very nature a psychological process of the whole human being, of the personality. It serves no other practical activity but the building of the whole life, the realisation of the life intent (Vasilyuk, 1988). The individual in this life-world has to develop will, and as a part of it, practical consciousness, which mediates will. The task of practical consciousness it to bring supra-situational and situational factors together. "Practical" consciousness, mediating the will, differs from "theoretical" consciousness in respect of its operating within situation. In this type of life-world, as in crisis, the outcome of
experiencing can take two forms, both of which are creative processes: first, restoration of life disrupted by the PCLS, a sort of "re-birth" and second, transformation into a life essentially different, a sort of "constructing a new self".

II - THE EMPIRICAL PERSPECTIVE: REVIEW OF RELEVANT RESEARCH

Invulnerability came to be recognised as a promising field of psychological research during the 1970s. It was defined as a continuously developing psychological process/state of the individual resulting from frequent confrontations with the Psychologically Critical Life Situations or PCLS such as disadvantages, stress, frustration, conflict, and crisis; in which the individual's "will" to understand, experience, and positively benefit from the PCLS are prominently manifested. Invulnerability manifests through the individual's consciously attempts to manage and overcome as well as constructively gain from both primary/endogenous and secondary/exogenous vulnerabilities. Primary vulnerabilities include sensory-motor deficits, deviant body morphology, unusual sensitivities, inhibitions, insufficient impulse control, and an incapacity to read other's cues. The secondary vulnerabilities, acquired over a period of development, dispose the individual to anxious preoccupations regarding the functioning of the body, the maintainance of relationships, the management of ambivalence, and the experiencing of the PCLSs; consequently making the individual easily fatigable, unable to relax, and unable to handle energy resources. As secondary vulnerabilities begin to show cumulative effects, mistrust grows, communication reduces, imitation and identification become weak, the affect-range narrows, postponement and delay become intolerable, and there is poor development of social competences.
Elaborate reviews of Euro-American psycho-educational studies of invulnerability have been presented in the doctoral dissertations of the students of Dash, along with their own studies in the Indian context. Therefore, only the Indian studies done at Utkal University have been described below.

Anthony (1991) investigated the environmental stresses, parent-child interactions, social-support net-works, psychosocial competencies and coping styles of children of alcoholics and non-alcoholics, with a view to identify personal, social, educational problems, stresses, and coping styles of children of alcoholics, and to develop counselling and guidance strategies to help these children cope effectively with lives' problems. The subjects were 102, 9-12 year old school-going boys and girls, 51 of alcoholic parents and 51 of non-alcoholic parents. Parents Alcoholism Inventory; Home Background and Socio Economic Status perception indices of parents and children; Children's Need-Satisfaction, Family Effectiveness and Social Support Inventory; Children's Life-events Interview Schedule; Teacher's Ratings of Children's Behavioural Competence; and Investigator's Observation and Rating of children's Behavioural Problems were the research instruments used to collect the data. Inter-correlations and tests were computed. Itemwise frequencies of the two groups, of the last four instruments were obtained. Results indicated that, though the children of alcoholics manifested more problems in personal, social and educational areas, experienced greater life-stresses; and received less intra-familial social supports than the children of non-alcoholics, their strengths were comparable to those of the normal children and were greater than their weaknesses. Both groups were found to adopt similar coping styles. Children of alcoholics more effectively utilized the excellent social support net-works available in the closeknit
Indian Community set-up, to reduce stresses and buffer adverse effects of parental alcoholism and resultant family disorganisation, by showing resilient/invulnerable personality traits.

These findings suggest that while supportive and corrective social-educational interaction programmes are necessary to offset their physical and emotional problems, counselling and guidance services to children of alcoholics should aim at empowering them with competencies and coping styles to promote self-reliance, invulnerability and self-growth.

Hariharan (1991) studied children's competence, environmental disadvantages and social support network, and coping styles. On the basis of peer nomination and checklist, the study selected 28 children for each of the four categories (N = 112) from an initial sample of 800 boys and girls of classes 7 through 10 belonging to the co-educational schools that enrolled children of varied SES background/levels. The research instruments used were (i) Teacher/peer nomination checklist which had two parts, the nomination part aiming at identifying the four categories and the checklist part containing 18 specific competence indicators to measure competence in six areas; (ii) Children's behaviour rating by teachers; (iii) Children's perception of home environment questionnaire; (iv) Connel's Multi-dimensional Measure of Children's Perception of Control; (v) Needs, social support and family effectiveness questionnaire; and (vi) Children's coping styles questionnaire. The data were analysed using univariate, bivariate, and multivariate statistical tests. The following are the main findings of the study. (1) Despite the socio-economic deprivations, the invulnerable children were found to have a healthy family psychological climate. (2)
Invulnerables were found more competent than vulnerables and were comparable to the advantaged competent children. (3) Though no significant difference was noted between the advantaged-competents and the invulnerables regarding number of stressful events experienced, the invulnerables scored significantly higher in their anticipation of problems. (4) The invulnerables used more planful problem solving and confrontive coping, but sought social support the least. (5) The invulnerable children's emotional reactions to stress included more shame, insult, joy, and anger; and less misery, dejection, and fear. (6) The invulnerables tended to develop a mental set to face problems squarely like 'catching the bull by the horns'. (7) The factors that contributed to variance among the four categories formed four clusters such as, (a) competence, (b) perception of locus / source of control, (c) social support net-work, and (d) coping styles. (8) Advantaged-incompetent children showed dissatisfaction with their environment. (9) The incompetent children of both advantaged and disadvantaged groups manifested behaviours similar to the "learned helplessness syndrome." (10) A selected sub-sample of 20 children (5 from each category) also participated in an experiment to study coping under artificially induced stress. In this experiment, it was found that advantaged-competent and invulnerable children coped well while the other two groups did not.

Choudhury's (1991) study of invulnerable children aimed at identifying the invulnerables from the normal population and studying their competence, social support net-work and coping behaviours/styles. From a total population of about 800 7th and 9th grade children of four high schools of Bhubaneswar and Berhampur, 120 children, 30 each belonging to the Privileged (advantaged-competent), Spoiled (advantaged-incompetent),
Invulnerable (disadvantaged-competent), and Vulnerable (disadvantaged-incompetent) groups were identified using the peer nomination technique. The study used the Pupil Evaluation Checklist filled-up by the child and his/her peers and the Children's Behaviour Resources Rating Scale completed by the teachers for measuring competence; the SES and Home Environment Inventory for measuring environmental stimulation/disadvantage; Children's Need Satisfaction/Family Effectiveness/Social Support Inventory for studying social support networks; and the Children's Coping Styles Inventory for assessing children's coping styles. The study analysed data using univariate, bivariate, and multivariate statistical tests. The following were the major findings of the study. (1) The invulnerable children perceived themselves to be more deprived/disadvantaged in child-rearing, social, emotional, and educational environmental aspects. (2) Inspite of their disadvantages, the invulnerables invariably stood second among the four groups, close to the advantaged-competent group in all areas of behavioural competence where as the disadvantaged-incompetents (vulnerables) came out the last as perceived by teachers. (3) The invulnerables reported encountering or experiencing more disadvantages and problems in the past than the other three comparison groups. They were also found to have more personal control over the problem situations compared to the other three groups. (4) With regard to coping styles, the invulnerables were found to seek more social support for emotional catharsis while the advantaged-competents seek the least. Invulnerables also ranked first in perseverance and effort maximization, and in accepting the reality. (5) The invulnerables felt economic needs more often followed by need for actual help/support. (6) The
disadvantaged children, in general, worked less independently; would not face more pressure and competition; had less realistic aspirations; lacked knowledge regarding their own strengths and weaknesses; did not feel good about themselves; were more unreasonable, immature, and irresponsible; did not accept criticism well; and rendered less efforts to help others. (7) With regard to seeking and utilising social support, the competent children sought more of verbal support (e.g. advice/suggestions) from the agents in the social support network than the incompetent children. (8) The Peer Nomination technique was found to be an effective, useful, and valid tool in identifying the competent and invulnerable children. The competent children (irrespective of being advantaged or disadvantaged) selected through this technique received higher mean scores of competence when they were further evaluated by their peers again with the aid of Peer Evaluation Checklist as well as by their teachers using the Children's Behaviour Resources Rating Scale.

Nanda's (1995) D. Litt. thesis presents two studies relating to environmental stimulation, competence, and invulnerability. The first study aimed at investigating the patterns of competence among popular and unpopular, boys and girls, of grades 6 and 8, studying in English and Oriya medium, Co-educational and Uni-sex schools. The sample consisted of 320 children selected to constitute a $2 \times 2 \times 2 \times 2 \times 2$ factorial group design. Popularity was assessed using children's peer-group sociometric choices and peer nominations. Six more research instruments were administered on all children: the Embedded Figures test, a curiosity task, a risk-taking task, a future-aspirations rating scale, a self-appraisal rating scale, and a motivation (affiliation-achievement) checklist. The teachers completed a children's
competence rating scale. A total of 25 dependent variables were analysed using five-factor ANOVA designs, with multiple comparisons of significant interaction effects. The results of the study revealed the following. (1) the children of English medium schools were better in general and social-motivational competence; whereas the children of Oriya medium schools were better in personal-motivational competence and personality styles. (2) The co-educational school children were better in general and personal-motivational competence, and personality styles. (3) The boys were found to be better in cognitive and social-motivational competence, whereas the girls were found to be better in physical competence only. (4) The popular children were found better in general competence whereas the unpopular children seemed better in cognitive-motivational competence. (5) The teachers of the English medium schools tended to over-estimate their children's competence, while the teachers of Oriya medium schools under-rated their children's competence. (6) The family effectiveness scores suggested that the parents and the family can meet the demands of their children according to their limited capacity but they did not desire that the needs of their children be satisfied by others. However, when the family failed to satisfy the needs, the child's competence determined to what extent the child sought to satisfy her/his needs through extra-familial support. The invulnerable children, being the products of adversities, disadvantages and deprivations; guarded and maintained their self-esteem and feeling of self-worth; and actively interacted with the environmental adversities, instead of just reacting passively.
Acharya's (1996) study aimed at identifying invulnerable children from a normal population of high school children and investigating their cognitive - motivational competencies and personality characteristics; with the intention of understanding the intra-personal dynamics promoting resilience. This study also used the Sociometric Peer Nomination technique which utilised peers' judgements to identify children belonging to disadvantaged and advantaged family and socio-cultural backgrounds manifesting higher and lower levels of competence in a 2x2 classification plan; to identify children belonging to four groups: disadvantaged-competent (invulnerable), disadvantaged-incompetent (vulnerable), advantaged-competent, and advantaged-incompetent. The groups so identified were then cross checked, verified, and validated using the Teacher Rating Scale and Competence Checklist. From an initial sample of 1000 7th and 9th grade children of four high schools of Berhampur city in Orissa, 24 children in each of the four groups (total N =96), were selected. Thus, four groups were selected from a normal population of about 1,000 high school children (24/group). The main focus of the study was on the invulnerable group of children, operationally defined as the Disadvantaged-Competent; which was compared with Advantaged-Competent, Disadvantaged-Incompetent, and Advantaged-Incompetent groups. A 18-item Peer Checklist and a 30-item Teacher Rating Scale were used to validate the selection of groups based on peers' nominations. Cattell's High School Personality Questionnaire (HSPQ), Rotter's Level of Aspiration Board Performance Test, and Stroop Colour-word Interference Test were administered. The Stroop Test used in this study was a modified version that included four cards: (i) colour names (words) written in black ink, (ii) colour patches, (iii) incongruously coloured colour-names (that is, card 1 and
card 2 superimposed), and (iv) pictures surrounded by colour patches (that is, card 2 + pictures). These research instruments yielded 35 scores, which were analysed using 2x2 ANOVA designs with multiple comparison tests using the Scheffe technique. On about 50% of the scores, the four groups of children performed similarly. The remaining scores showed that the Disadvantaged-Competent (Invulnerable) and the Disadvantaged-Incompetent (Vulnerable) groups compared well with the Advantaged-Competent and the Advantaged-Incompetent groups, respectively, in most of the cognitive, motivational and personality factors. The Invulnerable children were found to have higher intelligence, creativity, academic achievement, information processing (speed, organization, and filtering) abilities, conceptual dominance, and incidental memory. They seemed to aspire high, set high goals, try hard to reach them, show exceptionally deep task involvement, respond realistically and differentially to success and failure, shift their goals frequently by rearranging their means and resources, thereby showing some degree of emotional instability, fluctuating tendency, confusion and indecisiveness. Personality scores of the Invulnerable children indicated that they seemed to be persistent, moralistic, conscientious, disciplined, responsible, consistently ordered, concerned about moral standards and rules, worrying, self-reproaching, depressed, socially timid and relatively unresponsive, less friendly, brooding, having exacting will power, socially precise, compulsive, relatively more anxious, restless, overactive, introvert with certain degree of neuroticism, flexible, somewhat delinquency prone but having the capicity to recover by responding favourably to remediation and correctional training, quiet, self-possessed and having low leadership potential.
While all the studies of invulnerability done at Utkal were based on the assumption that invulnerability is normally distributed in the population, some (e.g., Acharya, 1996; Choudhury, 1991; Hariharan, 1991) drew the invulnerable as well as other comparison groups from the normal population using peer nomination method. The characteristics of these groups were then compared and contrasted in order to have an understanding of the invulnerable group.

In contrast, Panda, P. K. (1996) attempted to study invulnerability as a normally distributed developing characteristic of children. Such an approach emphasizes study of invulnerability as it occurs in the broad spectrum of normal population and envisions much broader implications of the knowledge gained in the field. Since the continuum of vulnerability-invulnerability is studied in the normal population, it was hoped that the results would have broader implications and would apply to the entire population thereby providing a much better scope for promotion of invulnerability in the entire normal population when a stable body of knowledge develops in the field. In addition to this, like the earlier studies, the present study also used environmental disadvantage/support and competence indices to conceptualise, identify, and study invulnerability. This study, based on a review of relevant research, was designed to find out children's cognitive, personality, motivational, and academic competencies contributing to development of 'invulnerability', operationally defined as "competence amidst disadvantages". The study sample, consisting of 368 children of Grades 7 through 9 of Boys', Girls', and Co-educational High schools in Bolangir, Orissa, India; was administered the Children's Environmental Stimulation and Support / Deprivation and Disadvantage Scale, the Competence
Check-list, the Draw-A-Man intelligence test, a Story writing test measuring language ability, the Similes Preference test, the Obscure Figures test, the Stroop Test, the Risk Taking tests, and the Task Persistence test. Their school examination marks were the indices of their academic achievement. Competence Check-lists were also filled-up by their parents, teachers, and peers. The invulnerability index was statistically derived, combining the Z-scores of 'Disadvantage' and 'Competence'. Statistical analyses of the data showed that competence assessments, particularly by the child's peers, were found suitable, useful, and effective in measuring children's general competence and identifying the invulnerables. The invulnerable children were viewed as more competent, though disadvantaged, by themselves as well as their peers, parents, and teachers. They performed relatively better academically, showed superior language ability, and were found to be more innovative, imaginative, creative, displaying higher abstraction ability.

Nayak's (1997) thesis presents an integrated theoretical synthesis and an empirical study undertaken to understand the developmental courses and contributions of pain and suffering associated with stress and disadvantage. The review of existing literature on pain, suffering, stress, disadvantage, coping, experiencing, and invulnerability led to the conclusion that (a) disadvantage, stress, frustration, conflict, and crisis need to be integrally considered as ontologically different hierarchical levels of Psychologically Critical Life Situations (PCLS), which (b) are normally distributed in the human population and over a life-span; (c) are unavoidable and universal phenomena immanent in all aspects of life; (d) are caused by adhayatimika, adhibhautika, and adhidaivika factors; (e) have both positive and negative contributions to life, producing invulnerabilities as
well as vulnerabilities; and (e) can be prevented, defended, overcome, and/or experienced creatively transforming the tragedy into a triumph. The empirical study conducted in Orissa, India; using a cross-sectional developmental design, aimed at investigating inter-culturally, the nature of common stressful PCLS, resultant reactions, and coping actions of urban, rural, and tribal adolescent boys and girls. Three research inventories were completed by 350 children of grades 7 and 9. The data were analysed using Chi-square and ANOVA tests. Results revealed that, irrespective of area, age, and/or sex; almost all adolescents encounter some sorts of PCLS which may be caused by self, others in the environment, or due to unknown factors. All children naturally react to, act upon, and cope varingly with these PCLS in the process of development. Not much developmental differences surfaced significantly in children's encounters with stressful life situations, reactions to and coping approaches in these situations; which might have been due to the short two-year age gap between the two groups.

All these studies have shown that the peer-nomination technique can be used either independently or in conjunction with a sociomentry to unravel various behavioural and social competencies of children. These studies have found out the sensitive nature and efficient functioning of the peer-nomination, peer-checklist and peer-rating techniques in identifying the competent and invulnerable children (Dash & Das, 1984; Hariharan, Dash and Acharya, 1987; Padhy, 1988, Pattnaik, 1988; Hariharan, 1990; Choudhury, 1991; Acharya, 1992, Panda, 1997; Mohapatra, 1997; Sahu, 1997).

A study by Dash & Pati (1990) correlated the Incidental memory scores of children obtained using an extended version of the...
Stroop test with measures of intelligence. Results showed positive correlation and were interpreted as taking the phenomenon of selective responding in a conflicting situation. It showed that un-intentionally some of the pictures get memorised. This interference has been explained by the failure of selective attention and response competition or conflict between visual/perceptual and verbal/conceptual response tendencies.

Panda, M. (1994) attempted to investigate the development of desociocentering among Indian children. Normally understood, desociocentering refers to taking other social groups' perspectives or viewing from others' positions or angles, which is integral to general cognitive development. In the present study, 160 children of Grades 4, 6, 8 and 10 were individually interviewed using a structured interview schedule which probed into children's desociocentrism relating to caste, kinship, tribe and religion. Apart from this interview schedule a story telling task, with the help of pictures, was also used to investigate into children's ability of perspective taking. Each child was asked to narrate the story thrice employing three different perspectives. Results revealed that a greater percentage of older children have developed clear views with regard to kinship/relationship. It was further found that less than 50% of children correctly responded to questions that dealt with change of caste and/or surname. Even very few of them could correctly report the caste and religion of the Adivasis/ Scheduled Tribes (ST). When asked whether one can change one's religion, one fifth of the children replied in positive. As to the caste/religion of the children born out of inter-caste/inter-religion marriages, many children replied that it would be determined on the basis of that of their fathers'. These results further demonstrate that
most of the Indian children are, by and large, ignorant about a number of customs and traditions prevailing in the Indian society. This, somehow, does not foster the proper development of centering in Indian children. Based on the findings, directions for further research and alternative methodologies have been suggested. In addition to these, educational implications of the findings have also been enumerated.

Pattnaik (1991) conducted a cross-sectional developmental study of to find out the effects of preschool education on cognitive development during early grades. The main objective was to study the differences between preschooled and non-preschooled children in grades 1 through 3 in certain selected cognitive tasks. Ninety preschooled children, 30 each from grades 1, through 3 were selected from four English medium schools of Bhubaneswar (Orissa, India). Ninety non-preschooled children, 30 from each of the three grades -equal numbers from the same class rooms/ schools were also selected as the comparison /contrast sample. In order to compare family socio-economic-status (SES) and home environments of the preschooled and nonpreschooled children, a short SES Index and a modified version of the HOME (Home Observation for Measurement of Environment) inventory of Caldwell were used. Parents (mostly the mothers) and two teachers evaluated each child on a 10 - item 6-point rating scale. The Draw - A - Man / Woman non-verbal test of intelligence was administered on all children and their drawings were evaluated by two judges (the investigator and another) using the 20- item within Body Sophistication quality scale. The language tasks (searching meaningful words in sentences involving visual closure and a cross- word puzzle) and two arithmetic tasks (an arithmetic puzzle and a number filling.
task) were administered to all the children in small groups. The data were analysed using ANOVA, inter-correlations and multiple regression analyses. The two samples differed significantly with regard to only 10 out of 26 variables. There were very few differences between the two groups in Family SES and HOME environment scores. The parents' Rating did not reveal any difference between the two groups. The non-preschooled children were found to score lower in Teacher Ratings, Draw - A- Man Score and the four tasks. Maximum difference was obtained in Grade 1, but by Grade 3 the differences diminished or vanished altogether. A series of multiple regression analyses revealed that the SES and Home environment variables did not predict the test scores of preschool and non-preschooled children differently. Analysing the diminishing effects of preschool education on children's Cognitive Development, it was concluded that the effects of pre-school education are too little and too short. Implications of these findings, particularly for the Indian context have been discussed detail.

Padhy's (1996) study is one of the series of the ACASP's researches in the area of early childhood psycho-educational interventions with the disadvantaged children through cognitive enrichment and remedial teaching, aimed at stimulating cognitive development, fostering school readiness, and promoting academic competence. This study aimed at finding out the effects of an intervention programme which utilised eco-culturally relevant play-ways methods for training, on certain cognitive skills of the Nolia (i.e., the coastal fisherfolk community, considered to be relatively disadvantaged in several ways) children between 5 and 10 years of age. From a large Nolia village at Arjee Palli
near Gopalpur sea-port in Orissa, 60 children aged 5 through 10 years, were randomly assigned to two groups: control and experimental, each group having 30 subjects. Seven cognitive tests were administered to the children of both the groups once before, once during the two-month long play-way intervention-training, and three times later during the follow-up period (after one month, two months, and six months). The study design specifically permitted not only the assessment of the effects of training, but also the persistence of these effects/changes over time in children's performance. These tests were: Conservation of Number, Length, and Liquid; Classification involving class-inclusion; Seriation using multiple-seriation-matrices, the Draw A Child Nonverbal Intelligence test, and a Verbal Learning and Memory task using story-telling. The training tasks consisted of Piagetian 'thinking-games' involving classification and seriation, language and communication games including vocabulary development and imitating to communicate through gestures, gross-motor activities (running, jumping, throwing, catching, etc.), and fine perceptual-motor activities (cutting & pasting, threading, colouring, paper folding, block building, etc.). The data were analysed using repeated measures Between-Within ANOVA designs to test the effects of intervention-training. Product-moment correlation matrices were computed to find out whether training produces stronger associations between the test scores indicating better integration of cognitive skills. The results showed that the experimental/training group's test scores (a) improved consistently and remained significantly higher than those of the control group, all through the follow-up period up to the last testing six months after the training; (b) showed increasingly stronger associations indicating better integration.
of cognitive skills over the testing sessions, and (c) showed that the effects of intervention-training persisted through the experimental follow-up upto six months. On the whole, the findings showed that the unschooled Nolia children's cognitive processes can be nurtured and skills can be developed through play-way cognitive training methods. The thesis discussed the implications of these findings in the context of early compensatory non-formal education of the disadvantaged children.