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RELATIONS BETWEEN LOCUS OF CONTROL AND ACADEMIC ACHIEVEMENT: AN ADAPTATION OF A MEASURE OF LOCUS OF CONTROL.

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ABSTRACT

Using an Amharic version of the CNSIE (Children's Nowicki-Strickland Internal-External Locus of Control Scale), 360 4th through 12th graders (186 of which were males and 174 females) were randomly selected and studied. Following the pilot study, during which the instrument was tested and refined, the main study was launched. In both the pilot and the main studies, the effect of a socially desirable response bias was observed to be minimum.

The purpose of this study was to test whether or not locus of control (i) develops with age, (ii) differs for males and females of the same age, and (iii) relates to academic achievement. Furthermore, family factors affecting locus of control were assessed and cross cultural comparisons were made. Results showed that internality orientation (i) progresses with an increase in age or grade level, (ii) does not differ for males and females of the same age, and (iii) positively relates to higher academic achievement. Also, more internals perceived their parents as authoritative and more externals reported their parents as authoritarian. Moreover, Eighth graders considered luck, wish, and fortune telling circumstances as positive attributes associated with good consequences which comparable American subjects did not believe. Results were explained and implications forwarded.

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CHAPTER ONE

INTRODUCTION

1.1. Background of the Problem

It is generally known that both cognitive (e.g. intelligence) and affective (e.g. beliefs & attitudes) factors are the basic determinants of academic achievement (Mehrens & Lehmann, 1969). One of the non-cognitive variables that this paper will deal with is a personality trait called locus of control orientation.

Research with the locus of control construct has been found vital in most countries especially in the United States of America and in Europe since Rotter (1966) asserted his social learning theory. Because of the importance of the trait over 3146 articles and dissertations have been produced within three decades under the heading "Locus of control" (Eric, 1966-1995). Furthermore, since Nowicki & Strickland's (1973) life span locus of control scale was published, 1078 articles & dissertations have been written most of which were done on school age children under 18 (as Indexed by Nowicki, 1993). In our country, only one article was published on children's attribution of responsibilities for academic outcomes by Darge (1988).

In this study attention was paid to the investigation of the trait internal-external locus of control orientation because of its relation to several psychological, social,

academic, and pathological variables. Several studies indicate that people with internal locus of control orientation were found to be in most cases in an advantage over those with external locus of control orientation (Nowicki & Duke, 1983). Fatalistic views, for instance, are mostly the dispositions of externals than internals[1]; few examples could be pin-pointed:

- "What will be will be."
- "What is going to happen will happen."
- "No matter how hard you try your destination is predetermined."

As a result externals find their life events to be less changeable and more uncontrollable than their internal counterparts (Rotter, 1966).

1.2. Objective of the Study

The main objective of this study is to test whether or not locus of control (i) differs for males and females (ii) develops with age, and (iii) is related to academic achievement. Accordingly, the investigator formulated the following hypotheses.

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[1] See operational definitions of internals & externals on page 5.

1.3. Hypotheses

3.1. There is no statistically significant difference between males and females in the internal-external orientations

3.2. Internality orientation develops (or increases) with age or with grades.

3.3. There is a statistically significant relationship between locus of control and academic achievement.

1.4. Significance of the Study

Although intelligence tests are the best predictors of academic achievement, even at their best they account for less than 50% of the variance in measures of academic achievement. The other 50% (or more) of the variance is accounted for by non-cognitive variables, one of which is locus of control (Mehrens & lehmann, 1969; Mowicki & Duke, 1983). Along with this idea, Makonnen (1987) in his discussion on the role of non-cognitive variables in education, underlined the following point:

> *...a widely investigated and educationally relevant dimension of belief, identified as important to individual development and on a broader scale to national development is locus of control... (p.9).*

Similarly, Nowicki & strickland (1973) reviewed a study conducted by Coleman and others (1966) on over half a million youngsters across the United States and paraphrased their findings as:

> *...a belief in destiny was a major determinant in school achievement...this pupil attitude factor [locus of control] had a stronger relationship to achievement than all other school factors together. (p.148).*

Furthermore, most studies indicated that locus of control is associated with academic achievement where internals achieve better than externals. Therefore, the implications derived from most studies on locus of control to education is underlined by researchers.

Finally, institutions, teachers, counselors, and researchers may use the results of this study as (a) a source of information, (b) a means of understanding and helping students, and (c) a stepping-stone for further enquiry.

1.5. Delimitation of the Study

This study is limited to primary and secondary school age children mainly because this age is a formative period when intervention, if need be, is effective (Rubin, 1982). Second, it is also limited to students in Jimma partly because the researcher works there and wants to follow the subjects (to do a longitudinal study) even after the purpose of this study is attained.

1.6. Definition of Terms

1.6.1 Conceptual Definition

(i) Locus of Control: refers to a generalized expectancy of the occurrence of reinforcement following a certain behaviour in a given situation. It is the perception of contingencies (or independence) of one's own behaviour (action) and subsequent events. It has two aspects: internal& external locus of control orientation (I-E).

a) Internals (Individuals with internal locus of control) refer to those individuals who perceive the contingencies between their action and its outcome; they perceive that they can control their "destiny" (i.e. success or failure).

b) Externals (Individuals with External locus of control) are those people who believe that their outcomes are independent of their actions; they perceive that their "destiny" (i.e. success or failure) is beyond their control, it is rather controlled by chance, luck, or powerful others.

(ii). **Parental Behavior**: refers to the perceived behavior of parents.

Dornbusch, et al (1987) summarized Baumrind's findings on parenting styles. Three parenting styles were identified with the following characterstics:

(a) Authoritarian Parenting Style

> *... parents attempted to shape, control, and evaluate the behavior and attitudes of their children in accordance with an absolute set of standards; parents emphasize obedience, respect for authority, work, tradition, and the preservation of order; verbal give-and-take between parent and child is discouraged... [this parenting style] was associated with low levels of independence and social responsibility. (P. 1245)*

(b) Permissive Parenting Style

> *... parents are tolerant and accepting toward the child's impulses, use as little punisment as possible, make few demands for mature behavior, and allow considerable self-regulation by the child... children of permissive parents were immature,lacked impulse control and self-reliance, and evidenced a lack of social responsibility and independence... (p.1245)*

(c). Authoritative Parenting Style

> *... this pattern contains the following elements: an expectation of mature behavior from the child and clear setting of standards by the parents; firm enforcement of rules and standards, using commands and sanctions when necessary; encouragement of the child's independence and individuality; open communication between parents and children, with encouragement of verbal give-and-take; and recognition of the rights of both parents and children. (p.1245)*

1.6.2 Operational Definitions

i) Internals are those individuals who scored below the median score on the children's Nowicki-Strickland Internal-external control scale (CNSIE).

(ii) Externals are those who scored above the median score on the CNSIE. Note: the CNSIE is scored in the external direction where high score means more external (or less internal) and low score means less external (or more internal).

iii) Locus of Control Score: refers to the raw score obtained from the CNSIE, the maximum score being 40 and the minimum score zero.

(iv) Academic Achievement: refers to the first semester class-room average results for the academic year 1995/96 for the sampled grade levels. It consisted of English, Mathematics and Overall Average.

(v) School Level: refers to the grades 4 through 12 from which subjects were selected for this study. These grades were combined such that 4,5 and 6, are Elementary School level students, 7&8, are Junior Secondary School level students, and 9, 10, 11, & 12 are senior Secondary School level students.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Controllability and Helplessness Theories

In an attempt to describe the extent to which an individual is capable of controlling his/her important life events, scholars have been using such concepts as helplessness and uncotrollability (Adler, 1939; Brady, 1958; Mowrer & Viek, 1948; Seligman, 1975; Weiss, 1971), and hopelessness (Richter, 1959).

Alfred Adler's (1939) concept of "striving for superiority, as a universal and basic motive stemming from man's inherent inferiority, focused on the overcoming of helplessness and the development of mastery. According to Adler a person who can not control his/her life events is said to develop inferiority complex.

Studies were also conducted on helplessness and its effects. For example, Mowrer & Vick (1948) investigated the role of controllable versus uncontrollable painful stimulus (shock) on rat's eating behaviour. Two groups of rats were matched for the intensity of shock, its duration, and what not's. One group of rats were capable of controlling the shock while the other group of rats did not and the researchers observed changes in eating behaviour of the rats. The shock-non-controlling rats were apprehended that the painful stimulus could indefinitely last as a result it

inhibited their eating behaviour. The same stimulus, when subjected to control, aroused little, if any, apprehension. "Fear from a sense of helplessness" was the label for the apprehension of this uncontrolled pain and inactivity. Weiss (1971) also found similar results after refuting Brady's (1958) finding that activity to terminate shock led the executive monkey to develop ulcer whereas the passive, yoked, recipient of shock ones did not. Weiss matched two groups of rats for genetic characteristics pertaining to activity, duration and intensity of the shock and other factors except one group of rats could stop the shock while the other group were passive and found that the "executive rat" did not develop ulcer, but the passive recipient of shock became the ulcerous rat. What was interesting in these studies was this: when the shock was stopped or controlled by the "executive rat" it was also terminated for the passive rat and hence both groups of rats received the same intensity and duration of shock. Inspite of this, the perception of control of the aversive stimuli could significantly reduce its impact. "Apparently the mere knowledge that one can exert control can alter the impact of an aversive event" (Lefcourt, 1980, p.212).

Still another study on the impact of lack of control was carried out on rats by curt Richter (1959). He held and placed wild rats into a turbulent bath and most of these rats died inspite of the fact that rats could swim and escape. Later on, autopsies revealed that the rats were not drowned but were apprehended and lost hope of escape and was termed as

parasympathetic death. Richter underlined that loss of hope (or being able to effect a change) was a very crucial psychological variable.

Seligman (1975) also thoroughly investigated the role of perceived non-contingency of action and its consequence on the development of learned helplessness. He explained clinical symptoms of depression in terms of learned helplessness, i.e. lack of the ability to exert control over the environment. According to Seligman, because depression is learned it can also be unlearned by training the patient to perceive control.

Although all the above theories focused on the impact of perceived control (or lack of it) a detailed account and a more elaborated theory was forwarded by Julian Rotter (1954).

2.2 Rotter's Social Learning Theory

Behaviour potential, expectancy, reinforcement value, and psychological situations are the four primary concepts that Rotter (1954) used to describe his theory.

a) **Behaviour Potential (BP)**: refers to the probability of occurrence of a particular behaviour in a given situation as a function of the expectation of the reinforcement that follows the behaviour and the value attached to the reinforcement. Rotter's prediction of behaviour goes beyond Skinner's in particular, and radical behaviorism in general, in that he takes into account the internal, cognitive variables (e.g. expectancy & value of

reinforcement) in addition to the external, environmental variables (i.e. reinforcement). Therefore, the occurrence of a specific behaviour depends not only on the external stimuli but also on the subjective impression one has about the stimuli. To Rotter behaviour refers not only to the overt behaviour (action) as is defined by skinner and other radical behaviourists but to the covert (internal, cognitive processes) as well. Hence, both internal and external variables are necessary to determine behaviour potential.

b) **Expectancy (E)**: is the other important concept which refers to the subjective impression one has about the probability of occurrence of reinforcement that will follow one's specific behaviour in a given situation. Previous occurrence of reinforcement for behaving in a certain way in a given situation influences the degree of expectancy. Reinforcement history paves the way for expecting reinforcement for behaving in a similar fashion. Whether or not the reinforcement occurred is repeated, and/or recent also makes a difference. Moreover, whether behaviour-reinforcement history situation(s) also affects the expectancy. Rotter clearly defined specific and generalized expectancies. If the expectation of a reinforcement is identical to the reinforcement previously attained for a certain behaviour in a given situation it is called *specific expectancy*. For instance, getting good grade at advanced composition part one as a result of hard work may make one to expect

the same good grade at the other part of the course, part two, with similar degree of effort. On the other hand, if the behaviour-reinforcement history carryover to other similar (but not identical) situations it is a *generalized expectancy*. For example, if studying hard at a psychology course follows a very good grade, the student generalizes that studying hard at other courses, say, geography, also leads to a very good grade. Locus of control is a generalized expectancy belief that represents the location of the perceived control of the outcome as either within the person (internal) or from without the person (external). Locus of control is a personality trait that reflects individual differences among people concerning their perceived contingencies or independence between their behaviour and subsequent outcomes.

c) **Reinforcement Value (Rv)**: refers to the tendency of an individual to choose one reinforcement over several other reinforcements. There is individual difference on the perceived value of reinforcement for the same activity in a given situation.

d) **Psychological Situation (Ps)**: refers to the context in which the behaviour occurs. This context is in constant interaction with internal (cognitive) and external environment. It is called psychological because one reacts to the situation the way one perceives the external stimuli.

According to Rotter the prediction of behaviour depends on the expectancy of the reinforcement that follows the behaviour and the value of the reinforcement in a given situation.

The fact that locus of control is explained under social learning theory implies that it is learned and, hence, can be unlearned.

2.3 Modification of Locus of Control Orientations

Because several studies indicated that internality was related to several positive behaviours, there was a strong interest to change locus of control orientations. Several approaches were employed with different subjects with varying degrees of success. Nowicki & Duke (1983) reviewed a study by Matheny and Edwards (1974) who used an experimental behaviour-oriented management system to change children's locus of control orientations and found:

> *Generally, changes in locus of control were found to correlate with changes in achievement. In fact, in one set of classrooms results indicated that experimental subjects compared to controls doubled their reading achievement gains, and those students who increased their achievement most also became most internal as the project progressed. (These students were third graders [n=30] who moved from a mean score of 17.63 to a score of 8.39) (P.37).*

It was noted that among the behavioral intervention programs those that are long term and broad based are the most

successful ones. Furthermore, so as to make the program effective, the change facilitators need to be highly trained in behavior techniques, enthusiastic about their role, and ready to apply the behavioral interventions intensely and for a long period of time (Nowicki & Duke, 1983, p. 39)

Another intervention approach was non-behavior management which aimed at improving the quality of life and at making the environment stimulating for the subjects. Nowicki & Duke (1983) summarized the findings of Knapp and McClure as follows:

> *their interventions were calculated to change the quality of life and consisted of tutorial assistance, value clarification workshops, psychological counseling, referral services, and constructive activities for youth. In response to the interventions both adults and adolescents became more internal compared to control subjects, in fact, control condition adolescents actually became more external over this period, which led Knapp and McClure to conclude that some enviornments create externality in developing adolescents. (p.39)*

Still other intervention techniques were found to be effective in changing subjects to become more internal. Some of these include: counseling for internality strategy, effective type of teaching strategy, i.e. training teachers to teach their subjects so as to facilitate internality orientations.

2.4 Antecedents of Locus of Control

Fundamental questions may be raised as to how locus of control originates and becomes a personality trait. Lefcourt (1980) summarized several studies that children who have been trained to have generalized expectancies about the relationship between their own actions and its consequences will develop a sense of control. To be specific, the home-milieu is the major determinant factor in fostering contingency awareness. For instance, Katkovsky, Crandall, and Good (1967) pin-pointed the relationship between parental behaviour and children's sense of control of outcome as:

> *Parental behaviours characterized as warm, praising, protective, and supportive were positively associated with children's beliefs in internal control. Conversely, 'negative' parental behaviours such as dominance, rejection, and criticality were negatively associated with beliefs in internal control. (p.765).*

The 'positive' parental behaviours mentioned above make children feel that they can cause their own outcomes (Waterman, 1975) and this kind of perception is called perceived control (Langer, 1983).

Nowicki & Duke (1983) also reviewed studies on the antecedents of locus of control and paraphrased the findings as maternal attitudes, social climate and paternal characteristics to be important determinants of locus of control.

> *Specifically, an internal locus of control has been found, in both Germany and the*

> *United States, to be related to the paternal characterstics of understanding, tolerance, helping and contact seeking, and to a family climate characterized by open communication, clear family roles, and democratic structures (Nowicki & Duke, 1983, p.20).*

Furthermore, parents of internals allowed greater independence and freedom to explore situations and to learn about the consequences of their behaviour. Internal children also perceived their parents as more cohesive & democratic, less conflictful and less controlling unlike their external counterparts.

Maccoby (1980) also reported that responsiveness of the mother was a very important factor for the development of internality. Similarly Loeb (1975) stated that suggestive style of parenting led to internality while directive style of parenting led to externality.

Although the home-milieu determinant of locus of control was thoroughly discussed, Crandall (as quoted by Lefcourt, 1980) cautioned that "positive" parental behaviours (such as warmth & support) per se were not determinant of locus of control unless they facilitate the child's perception of the contingency of his/her own actions and consequences. In Crandall's term "independence training" facilitated this kind of perception which was very important in the development of internality.

On the other hand, the family origins of external locus of control could be described the way Alfred Adler (1939)

described pampered (or overindulged) and neglected children. Such children frequently face feelings of inferiority and helplessness. Both pampered and neglected children are trained on a non-contingent basis as a result they are deprived of the opportunity to learn how to behave so as to cause consequences. Whereas pampered children are provided with indiscriminate reinforcement, neglected children receive no reinforcement both of which lead to non-contingency between action and consequence.

Not only the home-milieu but also factors outside the home and the family were considered as significant determinants of locus of control. In the studies of the antecedents of locus of control outside the family context the assumption was that non-continuous factors in people's lives might determine their locus of control orientations. Nowicki & Duke (1983) reviewed some studies and reported that affective events of the preschool years had a significant contribution in determining locus of control orientations during college years. Similarly, internal locus of control orientation at college level was also found to be significantly related to positive life events during high school. As a summary, "data gathered from continuous family interactions and from discrete stress events suggest that a combination of both may best explain and predict how particular control orientations develop." (Nowicki & Duke, 1983; P.36).

2.5 Locus of Control Versus Locus of Causality

Several researchers have been using locus of control and locus of causality interchangeably thinking that they represent the same construct. This confusion might be due to the assumption that past reinforcement history determines present behaviour and future expectations, which attribution theorists and social learning theorists take for granted. However, using the two constructs interchangeably was criticized as a misconception (Palenzuela, 1984; Pettersen, 1987; Rotter, 1975; Zuroff, 1980). For example Pettersen (1987) comments that "...attributing influence to internal or external causes is a concept which differs from that of perceiving control." (P.204). Wong and Sproule, as quoted by Pettersen (1987), also asserted that "external causality does not necessarily imply the absence of internal control." (p.204).

To point out the conceptual distinction, Palenzuela (1984) paraphrased Zuroff's (1980) argument that

> *...the locus of control is conceptually and operationally different from an attribution. Two basic differences between both constructs are: (a) locus of control is evaluated before an outcome has happened while attributions are afterwards, and (b) internal-external in Rotter's theory refers to whether the outcome is perceived as contingent or non-contingent with one's behaviour, while in attribution theory, internal-external refers to whether the causes are physically inside or outside a person... (P.684).*

Palenzuela reviewed studies that misused locus of control scales. Such scales as IARQ, Intellectual and Achievement Responsibility Questionnaire, (Crandall, Katkovsky, and Crandall, 1965) and the Multidimensional-Multiattributional Causality scales (Lefcourt, von Baeyer, Ware, & Cox, 1979), for example, were used as measures of the attributional styles. Lefcourt et al's scale did not make a distinction between causal attributions & locus of control.

2.5.1. A summary of the Distinctions

Table 1

A summary Table of the Distinction between Locus of Control and Locus of Causality

Summary	Locus of Causality	Locus of control
1. Theory:	-Attribution theory	-Social Learning Theory
2. Prominent Figure:	-Weiner, B.	-Rotter, J.B.
3. Concept:	-Locus of causality or the location of the causes of an event: • Internal/External cause • Stable/ unstable cause • Controllable/uncontrollable cause.	-Locus of control of reinforcement, or perceived contingency between action and outcome: • Internal/External control expectancy-It is a generalized expectancy construct
4. Measurement:	-Subjects are asked to attribute the causes of their success/failure in a specific event in their lives	-Subjects are given a standardized personality test concerning the contingency or independence of action and consequence across inter personal and motivational areas such as affiliation, achievement and dependency
5. All about:	-Description of the causes that just happened	- Portrayal of a trait; a relatively enduring personality characteristic
6. Scope:	-Limited to specific events in a very particular success or failure outcomes	-Broad: encompasses detailed accounts in the interpersonal and motivational areas

2.5.2 Theoretical Definitions

Internal locus of control refers to the perception that one has concerning the ability to influence the probability of occurrence of reinforcement following one's own behaviour. Some definitions of internal locus of control can be presented as follows:

Internal locus of control is

"a general expectancy that people can control events" (Coan, Fairchild, & Dobyns, 1973, P.53).

when one "feels in control of the things which happen to him" (Browdling, 1985, p.65).

when one "possesses power over what happens to him" (Mischel, Zeiss, & Zeiss, 1974, p.265).

when "the subject's expectancy that his own behaviour would change the probability that reinforcement might occur" (Stephens & Delys, 1973, p.56).

External locus of control, on the other hand, refers to the perception that influencing reinforcement is beyond one's control. In other words, his/her actions can't yield the desired outcomes. Some definitions include:

Externals "feel their destinies are beyond their own control." (Lenvenson, 1975, p.343).

Externals experience "a perceived lack of control-an awareness that one's efforts to cope with the world are not effective." (Phares, 1974, p.65).

An External "has no power over what happens to him" (Mischel, et al, 1974, p.65).

An external "believes that the events in his life are for the most part beyond his influence" (Broedling, 1975, p.65).

2.6 Correlates of Locus of Control

2.6.1 Parents Income, Occupation, & Education Level

Children's internality was not only found to be positively associated with higher social class (Nowicki & Strickland, 1973), but was also found to be "... related significantly to higher occupational level, especially for males." (p.152). On the other hand, most of their correlations between parents' education level and children's locus of control orientation score did not reach significance.

2.6.2. Race & Ethnicity

Most research with the locus of control construct showed that white children were more internal than Black children. (Nowicki & Strickland, 1973; Marcus, 1975; Nowicki, 1976; Fryre & Carlson, 1976).

That locus of control orientation could be influenced by ethnic discrepancies was also found by Kishor (1983). Results showed that same age Fijian and Fiji-Indian adolescents differed significantly in their locus of control orientation where the latter were more internal and better achievers.

2.6.3. Religion

Rotter's locus of control scale and a questionnaire identifying religious affiliation was administered to college students and it was found that Catholics were more external than Protestants (Geist & Bangham, 1980). Another study also showed that God-dependent adults were more internal on the Rotter's scale than the non-God-dependent adults (Silverstri, 1979).

2.6.4. Parental Behaviour

Internal children, as opposed to external children, perceived their parents as warm (Bowlby, 1981; Nowicki & Roundtree, 1971; Nowicki & Segal, 1973), less punitive (Gordon, Johnes, & Nowicki, 1979), more cohesive & democratic, less conflictful & controlling (Nowicki, 1981).

2.6.5. Birth Order (Ordinal Position)

Crandall, et al (1965) compared first born with later-born children and found no significant difference for the younger groups but for the upper grades, first born children were found to be more internal than later-borns.

2.6.6 Delay of Gratification & Self Control

Internality was found to correlate positively with delay of gratification for white elementary school children where

postponement of reward so as to maximize it was associated with internality (Kendall & Wilcox, 1982; Strickland, 1971, 1972; Bailer, 1961).

In contrast to externals, internals were found to have such qualities as impulse control and regulation of attention in classroom settings (Kendall & Wilcox, 1982). Furthermore, externals were more likely to daydream and thus more distractible when engaged in skill requiring task than internals (Lefcourt, Lewis, & Silverman, 1968).

2.6.7 Anxiety, Depression & Maladjustment

Lefcourt (1976) reviewed several studies that showed externality to be associated with the acknowledgement of anxiety and depression. Furthermore, preoccupied suicidal thoughts were associated with negative outlook of the future and greater externality beliefs (Melges & Weisz, 1971).

Externality on the Nowicki-Strickland locus of control was found to be associated with abnormality & maladjustment. For example, hospitalized schizophrenics were more external than hospitalized non-schizophrenics who in turn were less internal than normal individuals (Duke & Mullens, 1973). Learning disabled children were also found to be more external than normal school children (Hallahan, Gajar, Cohen, & Tarver, 1978; Hisama, 1979).

2.6.8. Social Influence

Based on Rotter's measure of locus of control, externals were found to be more influenced by the communications from prestigious sources than were internals. On the other hand, internals were more influenced by the contents of the argument than by the status of the sources (Ritchie & Phares, 1969).

Another study also showed that when working on a task in isolation, internals felt more at ease than externals. However, when 'feeling observed' i.e., when they were video recorded, externals showed less frequency of fidgeting and hence were more at ease than internals (Lefcourt, Hogg, and Sordoni, 1975). Furthermore, whereas moment to moment responsiveness of the environment in the form of feedback distracted internals, it facilitated externals when engaged in various problem solving tasks (Lefcourt, 1972).

To sum up, whereas externals were more attentive and positive to, and facilitated by, social cues, internals were more resistant to, and impeded by, social cues.

2.6.9 Cheating Behaviour

Johnson & Gormly (1972) found that externals were less resistant to temptations in the sense that they were more susceptible to cheating in examinations than their internal counterparts. Another study also revealed that externals were

more susceptible to violate social norms than were internals (Johnson, Ackerman, Frank, & Fionda, 1968).

2.6.10 Self-esteem & Popularity

Significant positive relationship between internality and self-esteem was observed where internals had higher self-esteem than externals (Misra, 1987; Roberts, 1971; Maqsud, 1983). Furthermore, internals were found to be more popular than externals (Nowicki, 1971; Nowicki & Barnes, 1971; Nowicki & Roundtree, 1971).

2.6.11 Information Seeking

Studies showed that internal patients were more knowledgeable and sought more information about their illnesses than externals. In general, internals sought more and detailed information that was relevant to their destiny than externals (Seeman & Evans, 1962; Seeman , 1963).

2.6.12 Achievement Behaviour

Several studies revealed that locus of control orientation was associated with academic achievement where internals achieve better than externals (Mount, 1975; Mowicki & Segal, 1973; Prawatt, Grisson, & Parish, 1979; Rupp & Nowicki, 1978).

2.7. Cross-Cultural Studies

As reviewed by Nowicki & Duke (1983) the Nowicki Strickland locus of control scales were translated into several languages. Chinese, Japanese, Hebrew & Arabic, Ghanian, South Sea Island native dialects, Bengalese, Czech, Polish, Spanish, Italian, Portuguese, Dutch, Nerwegian, German, Danish, French, and Magyar (p.19).

In Hungary and the United States Children of the same age were found to have similar internality score (Rupp & Nowicki, 1978), and in Poland, too (Drwal, 1977). On the contrary, Israeli children were more internal than comparable American children (Gordon, 1974). Blum (1973) also found that Israeli children to be significantly more internal than comparable Arab groups. Chinese subjects were also found to be more external than their comparable American subjects (Hung, 1977). In Africa, Blacks were more external and whites more internal than subjects in the United States (Morris, 1975; Barling, 1979).

A very good summary of studies on cross ethnic & racial comparisons was compiled by Nowicki in his manual for Children's Nowicki-strickland Internal-External Locus of Control scale (see Appendix B).

That locus of control is associated with academic achievement has got cross cultural generality. For instance, Faustman & Mathews (1980) conducted a study in Sri Lanka on

students' perception of personal control and their academic performances. Results showed that the American findings were found to hold true in Sri Lanka, a country with different ethnic, religious and economic features.

Still another cross-cultural generality of locus of control and academic achievement was observed by Mwamwenda & Mwamwened (1986). They found that Transkeian students' score on the locus of control scale was similar to those observed in USA, i.e., internally oriented subjects out performed the externally controlled ones on the examinations. Strickland's (1989) review also supports this cross-cultural similarity of results.

2.8. Major Issues Based on the Results of I-E Studies

Three major issues that are relevant to this study are identified. These include: whether or not (i) internality orientation develops with age [or grade level], (ii) males and females of the same age differ in their internality orientation, and (iii) academic performance is explained by locus of control.

2.8.1. Age and Locus of Control

Several studies with children have been conducted with the assumption that internality orientation increases with age. However, this is an unsettled issue.

Nowicki & Strickland (1973) studied 3rd through 12th grade students and found internality to be positively related to age, in which older children were more internal than younger ones. That internality orientation progresses with age was also reported earlier (Penk, 1969). Later on similar findings were reported by Wolf, et al (1982). Ryckman & Malikiosi (1975) also asserted the development of internality orientation from late adolescence through middle ages but not afterwards. Nowicki & Duke (1983) also quoted Dortzback's (1976) and Mink's (1977) studies on adults that reported younger adults to be more internal than older ones. According to these studies internality orientation develops with age from early childhood through young adulthood.

On the other hand, studies both locally and from abroad did not support the finding that internality orientation increases with age. For instance, Crandall, et al (1965) studied primary and secondary school students using IARQ (Intellectual and Achievement Responsibility Questionnaire) and found that overall internality score changed with age only slightly. Similarly, by adopting IARQ, Darge (1988) studied primary and secondary school students and concluded that "...Overall Internality does not seem to be a function of grade level [age]." (p.43). Tebbi, et al (1987) also found no significant difference in locus of control orientation as a function of age and concluded that older adolescent patients were not more internal than younger ones.

Still another line of study was reviewed by Nowicki & Duke 91983) which said "...Ghanaians appear to grow more external with age rather than more internal..." (.20).

These and similar other studies indicate that whether or not internality orientation, as a personality trait, grows with age is open for research.

2.8.2. Sex Differences In Locus of Control

This issue has two aspects: First, whether or not locus of control differs for boys and girls, and then whether or not the relationship between academic achievement and locus of control also differs for boys & girls.

Concerning the first issue, studies did not come up with the same findings. Rather, three patterns of findings emerged: (1) boys were more internal than girls, 92) boys were less internal than girls, and (3) boys & girls did not differ in their internality orientation.

A vast literature review was made by Findley and Cooper (1983) and consensus among researchers was observed that female students were less internal than male students. Richert (1981) also reviewed Hoyenga & Hoyenga's (1979) study and reported that internality orientation was more associated with men than it was with women. Similarly, the finding that girls were less internal than boys was also found by several

other researchers (e.g. Lao, Chuang, Yang, 1977; Misra, 1987; Mwamwend and Mwamwened, 1986; Stipek & Graliniski; 1991).

Factor analytic studies also revealed sex difference on the factors determined rather than on the overall internality orientations. For example, Wolf, et al (1982) factor analyzed the Children's Nowicki-Strickland locus of Control Scale and found three factors: I-Control & Helplessness (10 items):, II- Achievement & Friendship (7 items), and III-Luck (3 items) Girls were found to feel less at personal control and more at helplessness than did boys. Strickland and Haley (1980) also factor analyzed Rotter's (1966) scale and found three factors: I-Political Influence, II. Personal Control, III-Academic Achievement. They found each sex endorsing different items expressing personal control in different ways. Whereas items that cluster for males revolve around leadership and personal influence aspect of personal control, the items of this factor for females cluster around planning ahead and personal destiny, i.e. self-direction and future orientation. The third factor (Academic Achievement) belongs to males only. Still another factor analytic study of ANSIE yielded two factors: I-Interaction with others, and II-Luck (for males only) and II-Futility of Effort (for females only) where only the second factor makes a sex-difference (Dixon, 1976).

Another line of findings showed that girls were more internal than boys. Crandall, et al (1965) studied primary and secondary school students using IARQ and found that girls to be more internal than boys especially in grades six and

above. Similarly, Darge (1988) found that 4th, 7th, and 11th grade girls had relatively higher average overall Internality scores than their counterpart boys (p.37). Wolf, et al (1982) also found girls to be more internal on Factor II-Achievement & Friendship-than boys.

The third pattern of findings asserted that boys and girls did not differ in their internality orientations. Cole & Sapp (1988) used rural high school students and found that girls were as likely as boys to perceive themselves in control of their lives. Similarly other researchers found no significant sex difference in the internality orientation (Belay, 1994; Chandler & Dugovics, 1977; Crandall & Lacey, 1972; Duke & Nowicki; 1973; Edwards & Waters, 1981; Liftshitz, 1973; Misgina, 1994; Richert, 1981; Tebbi, Mallon, Richards, and Bigler, 1987). Furthermore, factor analytic approach revealed three factors and no apparent sex difference was observed on the factors (Nowicki, 1976).

The second aspect of sex differences revolves around the relationship between locus of control and academic achievement. Nowicki & Duke (1983) reviewed several studies that reported significant relationship between internality and higher achievement in standardized tests for boys only. Some of their reviewed studies include: (a) Mount (1975) studied 86 white six graders and found internality (using CNSIE) to be related to higher score on Stanford Achievement Test (SAT) for boys (Reading: r= -.54; Math: r= -.65; composite: r= -.61) but not for girls. (b) Nowicki & Segal (1973) used 112 twelfth

graders and found internal boys (using CNSIE) to achieve higher score on Iowa Test of Basic Skills (Reading: r= -.32; Math: r=.32; Composite: r=-.35), but low and nonsignificant relationship for girls. (c) Nowicki & Roundtree (1971) studied 87 white twelfth graders and found internal boys (using CNSIE) to achieve better on the California Achievement Test (CAT), (r=-.41); this was not the case for girls. These studies seem to indicate that locus of control can explain academic achievement on standardized tests for boys only.

Likewise, there were some studies that showed lack of significant relationship between locus of control and classroom achievement for girls (Brown & Strickland, 1972; Chandler & Dugovics, 1977; Nowicki & Strickland, 1973; Roberst, 1971).

On the other hand, Findley & Cooper (1983) analyzed fourty three studies and found that (1) the relation between locus of control and academic achievement was substantial among males than among females, (2) the relation was stronger for adolescents than for children or adults, and (3) standardized achievement tests were strongly related to locus of control than classroom achievement tests.

2.8.3. Locus of Control and Academic Achievement

With the exception of few studies (Brown, 1980; Cole & Sapp. 1988; Edwards & Waters, 1981) which found locus of control to be unrelated to academic achievement, most found it

to be related, where internals achieve better than externals for both sexes (Belay, 1994; Boor, 1973; Brown 1980; Crandall, katkovsky, & Crandall, 1965; Chandler & Dugolics, 1985; Darge, 1988; Faustman & Mathews, 1980; Findley & Cooper, 1983; Ismail & Kong, 1985; Kennelly & Mount, 1985; Kishor (1983); Mount (1975); Maqsud, 1983; Messer, 1972; Misra, 1987; Mwamwenda & Mwanwended, 1986; Nowicki & segal (1973); prawatt et al 1979; Rupp & Nowicki 1978 Schimitz & Skinner, 1993; Turner, 1978; Trice, Ogden, Stevens, & Teanne, 1987).

Furthermore, Nowicki & Duke (1983) reviewed studies [e.g. Mount's (1975), Nowicki & Segal's (1973), Prawatt, Grissom, & Parish's (1978), Roueche & Mink's (1976), Rupp & Nowicki's (1979)] which came up with the finding that internality orientation was associated with Grade Point Average (GPA) for both sexes. (their reported correlation coefficients ranged from r= -.25 to r= - .57).

2.9 Measurement of Locus of Control

There have been several measures of an individual's locus of control of reinforcement. Some of these include:
(1) Bailer's (1961) Children's Locus of Control Measure;
(2) Battle & Rotter (1963) children's Picture Test of Internal-External Control (a projective test); (3) Crandall, Katkovsky, Crandall (1965) Intellectual-Achievement Responsibility Questionnaire (IARQ); (4) Rotter's (1966) Internal-External Locus of Control Scale; (5) Levenson's (1974) Multidimensional Locus of Control Scale; and

(6) Duttweiler's (1984) Locus of control Scale. However, each has got drawbacks of one sort or another. The shortcomings could be in the format, reliability, and/or cross cultural acceptability. For instance, Battle & Rotter's (1963) measure did not report complete information on the reliability of the scale (Nowicki & Strickland, 1973); Rotter's I-E scale (1966) has been criticized because of its inappropriateness for blacks (Gurin, Gurin, Lao, & Beatlic, 1969) and for children (Nowicki & Strickland, 1973) and because of its relationship with social desirability, r=-.408, (Sommers-Flanagan & sommers-Flanagan, 1987); the crandall, et al's (1965) scale (i.e, IARQ) and the levenson's (1974) scale have been criticized severely for they did not make a distinction between attribution and locus of control (Pettersen, 1987). Further more, the forced choice format of the IRAQ is difficult for younger and duller subjects (Nowicki and strickland, 1973).

Measures of locus of control have also been constructed to include different age groups from preschool through oldage. These include: (1) CNSIE- Children's Nowricki- Strickland Internal-External Locus of control,within 9 and 18 years of age (Nowicki-Strickland,1973); (2) ANSIE- Adult's Nowicki-strick land Internal-External Locus of control Scale, (Nowricki and Duke,1974) :(3) PPNSIE- Preschool and Primary Nowicki-Strickland Internal- External control Scale for aged below 9, (Nowicki and Duke 1974); (4) GNSIE-Geriatric Nowicki-Strickland Internal External Control Scale (Duke,Shaheen,& Nowicki,1974); (5) LDCNIE- Learning Disabled Children's

Nowicki-Strickland Internal-External control scale (Parrell-Burnstein,1975); (6) BPPNSIE-Black Preschool and Primary Internal-External Control Scale (Duke & lewis,1979).

To sum up, "with the introduction of the GNSIE, Nowicki-Strickland (NS) scales were available for preschool through geriatric populations, meeting the need for the collection of data from different developmental ages..." (Nowicki & Duke, 1983, p.12)

The relatively appropriate locus of control scale for children is that of Nowicki & Strickland's (1973). However, this scale also falls short of the following issues: (a) Studies on the Nowicki-Strickland locus of control scale reported reliabilties of the scale, as reviewed by Nowicki & Duke (1983), using K-R_{20} that ranged form r=.27 to r=.74 for grades 1-9 (Allie,1979), test retest to be between r=.63 and r=.71 (Edwards, 1972: Nowicki &Strickland 1973), and split-half between r=.63 to r=.74 (Nowricki & strickland, 1973). As can be observed from the reported reliabilities, ranging from r=.28 to r=.74 (most of which are within r=.45 and r=.60) which is not a highly reliable measure although Nunnally (1967) asserted that for a construct .60 is an acceptable level of internal consistency. Even then when the scale is adopted its reliability is liable to drop.

(b) Nowicki & Duke (1983) reviewed some studies on the factor structure of the Nowicki- Strickland scale and found a two factor solution (Allie, 1979; Barling, 1980) on the other

hand, Wolf, et al(1982) found three factors of the Children's Nowicki-Strickland Scale: I-Personal control and helplessness, II-Achievement and Friendship, and II- Luck. Nowicki (1976) also found a three factor solution after analyzing the CNSIE using elementary, Junior, and senior secondary school students. Therefore the construct, the underlying trait being measured , differs form study to study. As a result there is a need for a study on the CNSIE to see if (or different) factor structure emerged for Ethiopian subjects.

(c) The relationship between social desirability and the Nowrick-Strickland scale for both sexes in each grade level was reported to be non significant (Nowicki & Strickland, 1973; p.152). However, there is no mention about its cross-cultural stability of this finding. When different populations are studied the relationship between social desirability and locus of control can be stronger (or weaker). For example, Rotter's I-E scale and social desirability are related, r= -408, (Sommers-Flanagan & Sommers Flanagan, 1987).

(d) Most of the studies used white subjects when validating the Nowicki-Strickland scales; for example, Anderson (1976) Barling (1979), Chandler (1976), Edwards (1972), Nowicki & Strickland (1973), Stone (1974) used white subjects as quoted by Nowicki & Duke (1983). Hence, the scale is validated more on white subjects than on blacks.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1. Subjects

Three hundred and sixty two students from 4th through 12th grade were randomly selected where 186 of them were males and 174 were females from Mendera Elementary School and Jiren Junior & Senior Secondary Schools in Jimma town[2] The sample was stratified as follows:

Table 2 (a): Sex, Age, & Grade Level of Subjects

Grades	Males		Females		Total	
	n	Ave.Age	n	Ave.Age	n	Ave.Age
4	23	10.52	21	10.38	44	10.45
5	25	10.60	19	11.21	44	11.43
6	25	12.20	24	13.08	49	12.63
7	19	13.26	20	13.95	39	13.62
8	18	14.22	20	15.20	38	14.74
9	21	15.86	19	16.24	40	15.75
10	21	16.24	17	15.47	38	15.89
11	17	17.41	17	16.88	34	17.15
12	17	18.06	17	18.22	34	18.09
Total	186		174		360	

The grades were regrouped into Grades 4 through 6, 7 & 8, and 9 through 12 designating Elementary, Junior and Senior Students respectively.

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[2] Two did not mention their grade levels.

Table 2(b): Sex & Age of Subjects in Combined Grades

Combined grades	Male		Female		Total	
	n	Ave.Age	n	Ave.Age	n	Ave.Age
4 through 6	73	11.47	64	11.64	137	11.55
7 through 8	37	13.73	40	14.58	77	14.17
9 through 12	76	16.80	70	16.67	146	16.74
A through 12	186	14.10	174	14.25	360	14.17

3.2. Instrument

Two major data collection tools were employed: a structured questionnaire and record consultation.

a. **Questionnaire**: It consisted of the following variables:

1. Biographical Variables such as age, sex, grade level, birth order, religion, ethnicity, parents' marital status, parents' education & occupation, parental behaviour, etc. From among these variables parents' occupation level and parental behaviour deserved a bit detailed descriptions.

1.1. Parents' Occupational level

The occupational levels were clustered according to their prestige (i,e. public impression, respect, & expectation of a person with a certain role) and income generating capacity into

"Low" level, "Middle" Level, and "High" Level. [3]

Examples:

. "**Low" level**- Janitor, daily, labourer, guard, etc.

. **"Middle" Level** - Cashier, health assistant, elementary school teacher, Kebele administrator, small scale merchant,...

. **"High" Level**. - Bank officer, mechanic, manager, accountant, Lawyer, large-scale merchant, etc.

1.2. Parental Behaviour

Children were made to evaluate their parents' behaviour. There were fifteen items on the scale. This scale, which was constructed by the investigator following Dornbusch, et al's (1987) definitions, had three parts each of which consisted of five items refering to

- Authoritarian Parenting Style: Item # 1,4,7,8, & 11,
- Permissive Parenting Style: Item # 2,5,9,12, & 15
- Authoritative Parenting Style: Item # 3,6,10,13 & 14.

The subjects were expected to respond whether the behaviour stated was most often that of their parents (mother's behaviour only, father's behaviour only, behaviour of both, behaviour of neither of them).

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[3] Colleagues were consulted in the classification of the levels.

For the simplicity of the analysis, the writer decided to select scores that represent dominant (more) of the three parenting styles, then the respondant has a dominant authoritarian style. In other words, if scores on the authoritarian subscale is greater than the scores on the other parenting style. Similar scoring procedure was followed for the other two parenting styles. If, on the other hand, there is no ONE dominant parenting style (i.e. if any two or three of them are equally dominant) then such individuals will be excluded from the analysis.

2. **Adapted Scales**: Two scales were carefully translated from English into Amharic. These were Children's Nowicki-Strickland Internal-External Locus of control scale (Nowicki & Strickland, 1973) and a social desirability scale (Shultz & Chavex, 1994).

Nature & Scoring of the Scales:

CNSIE (Children's Nowicki Strickland Internal-External) has 40 items each of which MUST be rated as YES or NO . YES responses on items # 1, 3 , 5, 7, 8, 10, 11,12,14,16, 17, 18,19,21,23,24,27,29,31,33,35,36,37,39, and No responses on the other 16 items represent externality and the subject would get one point for each with a maximum score of 40 and a minimum of zero. More score on the scale means more external orientation (or less internal orientation), and vice versa for the low score on the scale. The reliability and validity information was reported on the CNSIE manual. Using split-half method, as corrected by Spearman-Brown, Nowicki & Strickland (1973) found

r=.63 (grades 3,4,5), r=.68 (grades 6,7,8), r=.74 (grades 9,10,11), and r=.71 (grade 12). Concerning discriminative validity, non significant correlations were reported between locus of control (CNSIE) and social desirability response bias (Nowicki & Strickland), between CNSIE and IQ (Nowicki & Roundtree(1971), and between CNSIE and gender of subjects of the same age. Furthermore, several studies reported the construct validity of CNSIE.

The social desirability scale consisted of 11 items which would be rated on a three point scale, (Agree, Can't Decide, Disagree). Scores of 3,2, and 1 were respectively designated for each statement. More score meant more tendency for response bias in a socially desirable way. Item # 6 and 10, however, were scored 1, 2, and 3 for Agree, Can't Decide, and Disagree respectively because of their reversed expressions.

b. Record Consultation

First semester overall average results,[4] English results, and Mathematics results for the academic year 1995/96 were collected for the sampled subjects.

3.3. Procedure

3.3.1. Refinement & Administration of the Questionnaire

Before launching the pilot study, the investigator focused on collecting and refining relevant items concerning the

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[4]* includes the English & Mathematics Results.

background information as well as selecting appropriate locus of control and social desirability scales.

The investigator collected comments from his advisor and colleagues as well as from elementary school students and teachers. The following steps were followed:

- Relevant items concerning background information were collected from the literature,

- Children's Nowicki Strickland Internal External Control scale (Nowicki & Strickland's, 1973) and social desirability scale (Shultz & Chavez's, 1994) were adapted & translated into Amharic.

- The translated scales along with their English versions were given to individuals in the field of Applied Linguistics for comments and then the translated scales were modified.

- All items were arranged so as to form one questionnaire and the questionnaire was given to colleagues in the field of Measurement and

  Evaluation and their comments were incorporated in the questionnaire.

- The questionnaire was assessed by experts as a result of which leading questions were modified,

expressions were made more economical, difficult expressions were made simple; the significance of each item for the study was questioned and generally careful observations were made on the translated scales.

- Two elementary school teachers, and two students, fourth & fifth graders, were also consulted about the comprehensibility of the scales.

Finally, colleagues from the field of Measurement and Evaluation rated the scales independently and it was observed that there was no marked conceptual difference between the English and Amharic versions of the scales.

Since the investigator felt that the questionnaire would be difficult especially for elementary school children to fill out at once, he divided the questionnaire into two parts. Part one contained items that could not be affected if filled out in the presence of (or by consulting) others. Even the children could consult their parents about such items as parents' income & education level and were instructed to bring it back the next day. Part two consisted of items that were personal (or private) such as the control expectancies (CNSIE), social desirability, parental behaviour and others. So they were made to respond to the second part in the classroom.

3.3.2. Results of the Pilot Study

In both the pilot study and the main study the same procedure was followed. Results of the pilot study showed that CNSIE had similar reliability indices with the studies on which the scale was originally validated. Furthermore, the social desirability scale was made to correlate with each item on the CNSIE and with the total score on the scale. Results showed very low correlation coefficients except item # 25 which was highly correlated with social desirability. This item was revised for the main study.

3.3.3. Results of the Validation Study

Reliability of the CNSIE: the internal consistency of the scale was computed using the split half method for grades 4 through 6 (r =.58), grades 7 and 8 (r =.68) and for grades 9 through 12 (r=.66) which was similar to Nowicki-Strickland's (1973) report. These coefficients were tolerable in that the items were not arranged according to their difficulty. Furthermore, as Nowicki & Duke (1983) quoted Nunnally's (1967) assertion, .60 is an acceptable level of internal consistency for a construct.

Discriminative Validity: the overall correlations between the CNSIE and an abbreviated social desirability scale (r=-.15) indicated that the effect of a socially desirable response bias was kept at a minimum.

3.4. Methods of Data Analysis

To observe sex difference in the mean locus of control scores, a t-test was employed at each grade level and for the combined grade levels. Furthermore, a two-way ANOVA (2x3), i.e sex by grade level, was done to see if there was any interaction effect on the locus of control scores. In addition, Scheffe's multiple comparison procedure was followed to compare the groups, in this case grade levels.

Chi-square (X^2) analysis was used to assess the relationship between internality-externality orientations and sex, age, grade level, home conditions, and child experiences.

Factor analysis was also employed to assess if there were any factorial solution differences for males and for females in the locus of control orientation. This method was also used to extract general factors of the CNSIE.

The Pearson product moment correlation coefficients were computed to observe if there were any relationships between locus of control scores and overall average results, Mathematics results, and English results. An alpha value of .05 was employed for all significance tests.

CHAPTER FOUR

RESULTS

The results of this study is presented in five major sections: (1) Sex differences in locus of control orientations, (2) Age and grade level differences in locus of control orientations, (3) Antecedents of locus of control (4) Factor structure of the CNSIE, and (5) Relations between locus of control and academic achievement.

4.1. Sex Differences in Locus of Control Orientations

Mean locus of control score on the CNSIE scale is compared for males and females for each grade level and for each school levels using the t-test (see tables 3 and 4 below).

Table 3.
Mean Differences in Locus of Control Orientations between Males and Females for Grades 4 through 12.

Grade	Male			Female			Signif. of t
	N	M	SD	N	M	SD	
4	23	14.91	2.61	21	17.29	3.59	P<.05
5	25	16.48	3.02	19	17.05	2.84	ns
6	25	14.28	4.40	24	14.00	4.76	ns
7	19	15.42	2.87	20	14.75	4.77	ns
8	18	14.33	3.94	20	14.70	3.92	ns
9	21	14.67	3.29	19	15.89	4.55	ns
10	21	11.90	3.64	17	10.47	3.47	ns
11	17	13.82	3.75	17	14.71	2.64	ns
12	17	11.35	2.96	17	11.88	2.87	ns

ns= not significant or p >.05.

The trend of locus of control orientations between males and females generally show a non-significant difference except for fourth graders where girls are more external than boys ($p < .05$); see table 3 above.

Table: 4

Mean Differences In Locus of Control orientations Between Males and Females in Combined Grades.

Combined Grades	Males			Females			Signif. of t
	N	M	SD	N	M	SD	
4 thru 6	73	15.23	3.53	64	15.98	4.14	ns
7 and 8	37	14.89	3.45	40	14.73	4.05	ns
9 thru 12	76	12.93	3.67	70	13.31	4.06	ns
4 thru 12	186	14.24	3.70	174	14.62	4.22	ns

Here again, in the combined grades males and females do not significantly differ in their locus of control orientations (see table 4 above).

Another way of looking at sex-difference is to cross tabulate internals and externals. However, results (see table 5 below) reveal a non significant association ($x^2 = .91$, $df=1$, $p > .05$; $r=.05$, $p > .05$).

Table: 5 Internality versus Externality Orientations by Sex

I-E	Females	Males	Total
Internals	70	80	150
Externals	91	84	175
Total	161	164	325

4.2 Grade Level and Age Differences in Locus of Control Orientations

In this section results are presented in three ways. (1) Grade levels as indicators of age[5], i.e., Elementary, Junior Secondary, and Senior Secondary schools are represented by grades 4 through 6 7 and 8, and 9 through 12 respectively. (2) Different age groups based on their developmental characteristics are cross tabulated by internal versus external orientations (3) Pearson's product moment correlation between locus of control orientations score and age is also presented.

Table 6

Internality versus Externality Orientations by grade Levels

I-E	Grade Levels			Total
	4-6	7-8	9-12	
Internals	41	28	81	150
Externals	82	46	47	175
Total	123	74	28	325

Subjects get more internal (and less external) as they progress in grade levels from elementary through high school (x^2 = 25.30, df= 2, $p < .05$). The coefficient of contingency, C=.27, $p < .05$, and pearson's r = -.27, $p < .05$ indicate a significant association between internal-external orientations and grade level. In this case internality increases and externality decreases as the subjects progress in grade level.

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[5] Although progress in grade level indicates progress in age, they are not perfectly correlated.

Table 7:

Internality Versus Externality Orientations by Age Groups 1

I-E	Age Groups 1		Total
	8-13 Years	14-25 years	
Internals	46	104	150
Externals	82	93	175
Total	128	197	325

Compared to adolescents (i.e ages 14 through 25), subjects in childhood age (i.e between 8 and 13) are found to be more external (or less internal), i.e, $x^2 = 8.87$, df = 1, $p < .05$. In other words, older children are more internal than younger ones. Pearson's contingency coefficient, C =.16, and Pearson's r=-.165, indicate a significant ($p<.05$) association.

Table 8:

Internality Versus Externality Orientations by Age Groups 2.

I-E	Age Groups 2			Total
	8-13 Years	14-16 Years	17-25 Years	
Internals	46	65	39	150
Externals	82	71	22	175
Total	128	136	61	325

If early adolescence is found within the age range of 14 and 16, then this analysis could be seen as late childhood (i.e between ages 8 and 13), early adolescence and late adolescence (i.e. between ages 17 and 25) with respect to internal-external locus of control orientations.

Results show that children in late adolescence age range are significantly more internal (or less external) than children in the late childhood age range (x^2 = 13.28, df=2 p <.05). A significant Pearson's Contingency Coefficient (C=.198) and pearson's r=-.198 indicate that there is an association between the age groups mentioned and internality-externality orientations.

Table 9:

Internality Versus Externality Orientations by Age Groups 3.

I-E	Age Groups 3			Total
	8-13 Years	14-18 Years	19-25 Years	
Internals	46	91	13	150
Externals	82	90	3	175
Total	128	181	16	325

Childhood (ages 8-13), "adolescence" (ages 14-18), and "youth" (ages 19-25) are very rough age classifications. Despite this imprecise classification, results indicate that subjects in the "youth" age group are more internal than external whereas those subjects in the childhood age group are more external than internal (x^2=14.54, df=2, p<.05). Furthermore, the coefficient of contingency, c=.207(p<.05) and Pearson's r=-.202 (p<.05) indicate the association between the variables.

To sum up, results presented in tables 6 through 9 indicate that progress in grade levels and in age groups means to some extent an increase in internality orientations. The

mentioned Pearson's correlation coefficients in each case (r-.27, r=-.165, r= -.198, r=-.202, respectively) indicate externality orientation declining to some extent with increase in grade levels, or age groups. Furthermore an analysis is made without categorizing the variables. The relationship between scores on the locus of control scale and age is found to be negative, low and significant (Pearson's r=-.15, p<.05).

We have already seen that there are no statistically significant differences between males and females in locus of control orientations but there is a statistically significant difference among the grade levels or among the age groups. However, this is not sufficient because we also need to know about the interaction effects, if any, of sex with grade levels, or with age groups on the Locus of control orientations. Hence, a two way ANOVA (see appendix A) is employed. Main effects show similar results as determined by the t-test, sex being not significant (F=.97, df=1, p>.05) but grade level being significant (F=14.80, df=2, p<.05). However, there is no interaction effect (F=.375, df=2, p>.05). The proportion of variance explained by grade level alone is 7.64%. To know which pairs of grade levels make significant difference, Scheffe's multiple comparison procedure is carried out.

Table 10:

The Effect of Grade Levels on Locus of Control Orientations

(10a) ANOVA Summary Table

Source	df	ss	MS	F ratio	F prob
Between	2	430.76	215.38	14.81	000
Within	357	5205.55	14.54		
Total	359	5635.98			

(10b) Results of Scheffe's multiple comparison procedure with (*) denoting pairs of grade levels significantly different at the .05 level.

Grade levels					Grade Levels		
	n	Mean	SD	SE	4-6	7-8	9-12
4-6	137	15.56	3.81	.32			
7-8	77	14.81	3.75	.43	?		
9-12	146	13.14	3.85	.32	*	*	
Total	360	14.43	3.96	.21			

The scheffe procedure reveals that children in grades 4 through 6 are significantly more external than children in grades 9 through 12. Likewise, children in grades 7 through 8 are significantly more external than those in grades 9 through 12. However, those children in grades 4 through 6 and those in 7 and 8 are not significantly different as indicated by a ? in their internality orientation.

Because the grade level and actual age of the subjects were not identical, the investigator decided to make a separate analysis using different age groups. The ages of the subjects were categorized based on their developmental characteristics in three ways (see also pages 46-48). Concerning age groups,

a two way ANOVA shows that children in the age of late childhood (8-13) are significantly more external than children in the age of adolescence (14-25) ($F=8.69$, $df=1$, $p<.05$). No significant interaction effect between sex and age group 1 is observed ($F=$, $df=1$, $p>.05$);

The other two ANOVAs also reveal non-significant interaction effects and main effects except the effect of age groups. Hence, the investigator again employed Scheffe's multiple comparison procedure to pin-point which age groups make significant difference.

Table 11:

The Effects of Age Groups 2 on Locus of control Orientation (11a) ANOVA Summary Table

Source	df	SS	MS	Fratio	F prob.
Between	2	186.01	93.01	6.11	.0025
Within	357	5450.29	15.22		
Total	359	5636.30			

(11b) Results of the Scheffe' Procedure

Age Groups 2					Age Groups 2		
	n	Mean	SD	SE	8-13	14-16	17-25
8-13 Years	143	15.15	3.75	.31			
14-16 Years	147	14.32	4.22	.35	?		
17-25 Years	70	13.17	3.48	.42	*	?	
Total	360	14.43	3.96	.21			

Results of the Scheffe' procedure indicate that children between the ages of 8 & 13 are significantly more external than those above the age of 17. The other two pairs reveal

Similarly, children under 13 are more external than those within age group 19 throug 25. However, "adolescents" (ages 14-18) and "youth" (ages 19-25) do not have significant difference in their locus of control orientations.

Results generally indicate that there is no interaction effect between sex and grade level or age groups in locus of control orientations. However, a significant main effect is observed when grade level or age groups are taken into account. On the contrary, sex do not have any effect in any of the cases.

4.3. Antecedents of Internal-External Locus of Control Orientations

In this section the child's and his/her family conditions are used to search for the antecedents of locus of control orientations. We will first see whether or not internal children differ from external ones in different family conditions. Then we shall see how different child experiences or background conditions might (might not) affect his/her internal-external control orientations.

4.3.1. Internals Versus Externals By Family Conditions

a. Parents' Ethnicity

The children's parents belong to the following ethnic groups: Oromo, Amara, Tigrayan, Yem, Kembata, Wollayta, kullo/Dawro, Keffa, & Guragae. In this analysis, internal and

external subjects are cross tabulated by their parents' ethnic group. Results indicate that there are no significant asscciation between internal-external orientation and father's ethnic background (x^2=6.37, df=8, p>.05) and mother's ethnic background (x^2=3.68, df=7, p>.05).

b. Parents' marital Status

Internal and external children are cross tabulated by intact versus disrupted families. Results show non-significant association (x^2=.03 df=1, p>.05),. In fact, the number of children from the disrupted families is very small (only 8.81%).

c. Family Size

Most of the children, both internals & externals, (64.55%) were from families with five or more children. There is no statistically significant association between internality-externality and family size (x^2=1.30, df=4, p>.05). In other words, there are as many internals (or externals) in the small family size as they are in the large family size.

d. Parents Occupation Level

About 85% of the children's mothers are housewives. Focusing on father's or guardians occupation levels seem worthwhile. Concerning the occupational levels of the father/guardian 30.95% are unemployed and 'low' level

occupation, 43.32% "middle' level and 25.73 "high" level occupation.

Results reveal that father's occupation level does not make an association with internality and externality orientations (x^2=3.41, df=2, p>.05).

e. Parents' Education Level

With regard to the education level of the fathers/guardians 14.52% are illiterate, 32.58% elementary, 37.42% secondary school, and 15.48% undergraduate and above.

Internality-externality orientation do not make any significant association with parental education level; i.e., with father's education level (x^2=3.52, df=5, p >.05) and with mother's (x^2=6.72, df=5, p >.05).

f. Parents' Behaviour

Internal and External children are found to differ significantly in the behaviours of their parents (x^2=8.30, df=2, p<.05).

Table 13.

Internal-External Orientations by Parenting Styles

I-E	Parenting Styles			Total
	Authoritarian	Permissive	Authoritative	
Internals	2	13	107	122
Externals	12	9	97	118
Total	14	22	204	240.

More externals than internals have parents with authoritarian behaviour. Likewise, more internals than externals report that their parents are either permissive or authoritative.

4.3.2 Internals Versus Externals By thier Experiences

a. Place of Birth

Children born in Jimma and those outside of Jumma do not have significant association with their internality-externality orientations (x^2=.006, df=1, p >.05.

b. Native Language

There is no statistically significant association between internality-externality orientations and their native languages (x^2=.81, df=2, p>.05).

c. Knowledge of Languages

Monolinguals and multilinguals do not significantly associate with their internality-externality orientations (x^2=1.26, df=1, p>.05).

d) Praying Experience

Internals and externals have similar praying experiences (x^2=.04, df=1, p>.05). Similarly, internals pray as much as externals (x^2=4.83, df=3, p>0.05).

e. Living

Most of the children in this study (93%) live with their natural parents. This study reveals that there are as many internal children living with their natural parents as externals (x^2=.06, df=1, p >.05).

f. Ordinal Position

Whether children are first born or later born do not make a significant association with their internality (or externality) orientations (x^2=.18, df=1, p>.05). Furthermore, an analysis is made using first born and last born and a non-significant association is observed (x^2=.298, df=1, p>.05).

g. Repeaters Versus Non Repeaters

Children who experienced repeating grades at least once in their school years are found to be more external and less internal than those who do not experience repeating grades (x^2=

8.42, df=1, p<.05; c=.16, p<.05; see table 14 below).

Table 14:

I-E	Have you ever repeated grades?		
	Yes	No	Total
Internals	59	87	146
Externals	96	73	169
Total	155	160	315

However, there is no significant difference between less frequent repeaters and more frequent repeaters in their internality orientations (x^2=.59, df=1, p>.05).

h. Missing Classes

More externals than internals ignore classes even if there is a very important lesson offerred in their schools (x^2=12.12 df=1, p<.05; see table 15 below).

Table 15. Internals Vs. Externals by Experience of Missing classes.

I-E	Do you cut classes?		
	Yes	No	Total
Internals	2	148	150
Externals	19	156	175
Total	21	304	325

However, about 93.54% of the subjects do not want to ignore classes when they feel that a very important lesson is offerred in their schools.

4.4. Factor Structure of the CNSIE

Analysis in this section focuses on whether or not similar factor structures emerge for males and females and on a general underlying factors for both sexes. Principal component analysis with varimax rotation is employed. Eigenvalue greater than or equal to 1 is used for factor retention. Factor loadings greater than or equal to /.30/ are also used for item retention.

(a) Males (n=186): Three general factors that account for 14.3% of the total variance emerged for males: Factor I-Fatalism and Inactivity (6.2%), Factor II-Effort and Personal Control (4.5%), and Factor III-Friendship and Self-esteem (3.6%).

(b) Females (n=174): Three factors that account for 15.4% of the total variance emerged for female students: Factor I-Futility of Effort (5.7%), Factor II-Fatalism and Inactivity (5.2%), Factor III-Effort and personal Control (4.6%).

(c) Males & Females Together (n=360): Two general factors that account for 10.6% of the total variance emerged for the children in the sample. Factor I-Helplessness & Fatalism (6.4%), and Factor II-Effort and Personal Control (4.2%). Concerning the items that loaded on the factors mentioned above, see table 16 below.

Table 16:

The Factor Structures of the Children's Nowicki-Strickland Internal-External Locus of Control Scale.

Males						Females						Both Sexes			
Factor I		Factor II		Factor III		Factor I		Factor II		Factor III		Factor I		Factor II	
Item #	Factor Loading	Item #	Factor Loading	Item #	Factor Loading	Item #	Factor Loading	Item #	Factor Loading	Item #	Factor Loading	Item #	Factor Loading	Item #	Factor Loading
8	.53	30	.47	5	-.40	7	.49	21	.57	38	.46	8	.52	24	-.45
17	.47	32	.47	20	.39	39	.46	8	.52	25	.46	39	.44	38	.45
19	.43	24	-.45	18	.34	27	.44	3	.49	32	.42	17	.43	32	.43
36	.43	23	.45	12	-.32	33	.39	10	.41	13	.38	7	.42	21	-.39
31	.40	38	.38	7	.32	29	.38	19	.47	20	.34	1	.39	20	.37
29	.38					23	.37	16	.30	22	.38	31	.38	23	.33
21	.38					31	.37			30	.32	3	.38	25	.30
1	.35					18	.35			6	.31	29	.37		
10	.31					37	.34					19	.37		
37	.30					34	-.32					37	.34		
						17	.31					36	.34		
												18	.32		

Despite the fact that males and females score similar average locus of control scores on the CNSIE, the underlying factors in each sex is not identical. Whereas the two factors Fatalism & Effort) are extracted for males and for females the "third" factor makes a distinction. for males the third factor is friendship & self-esteem while for females it is Futility of Effort (In fact, this is the first factor).

4.5. Locus of Control and Academic Achievement

The investigator selected three kinds of classroom achievements: Overall Average, Mathematics, and English results. The relationship between locus of control score and each of these achievement are presented hereunder for each sex, for each grade level or combined grades.

4.5.1. Relations Between Locus of Control & Overall Average

Pearson's product moment correlation coefficients are computed between overall average results and locus of control scores and the result is summarized as follows:

Table 17:
Correlation Coefficients Between Locus of Control and Overall Average Results

Grade	Male		Female		Total	
	n	r	n	r	n	r
4	23	-.1024	20	-.6267*	43	-.4779*
5	25	-.3280*	20	-.4117*	45	-.3665*
6	25	.1630	24	-.2034	49	.0041
7	19	-.2474	20	-.4002*	39	-.3497*
8	18	-.2745	20	-.0178	38	-.1716
9	18	.5166	19	-.0110	37	.1606
10	20	.1108	17	-.3091	37	-.0721
11	16	-.4824*	17	.4405*	33	-.0784
12	16	.4427*	17	-.4323*	33	-.0003
4-6	73	-.0779	63	-.3654*	136	-.2299*
7-8	37	-.2457	40	-.2967**	77	-.2700*
9-12	70	-.0971	70	-.2921*	140	-.1859*
4-12	180	-.1583*	174	-.3808*	354	-.2693*

* p< .05
** p<.10

Concerning the relationship between locus of control and an overall average results significant negative correlation coefficients are obtained for 4th (r=-.4779), 5th (r=-.3665), and 7th (r= -.3497) graders. For Grades 6,8 through 12 non-significant correlation coefficients are obtained.

When the grade levels are combined significant negative correlation coefficients are found for grades 4 through 6 (r=-.2299), for grades 7 through 8 (r= -.27) and for grades 9 through 12 (r= -.1859). In these combined grades, on the other hand, significant negative correlation coefficients are

obtained only for female students. Their respective correlation coefficients are r= -.3654, r= -.2069, and r=-.3169.

On the other hand, when the whole sample is considered, significant negative correlation coefficients are found for males (r= -.1583), for females (r= -.3808) and for both sexes (r= -.2693). In terms of the proportion of variance accounted for by locus of control and an overall average results, i.e., $r^2= (-.2693)^2 =7.25\%$ is their shared variance for the sampled students. The coefficient of determination for males and females were also 2.51% and 14.50% respectively.

4.5.2. Relations Between Locus of Control & Mathematics Results

Here again Pearson's correlation coefficients are computed and the result is as follows:

Table 18: Correlation Coefficients between Locus of Control & Mathematics Results.

Grades	Male		Female		Total	
	n	r	n	r	n	r
4	23	.0179	20	-.5126*	43	-.3659*
5	25	-.3651*	20	-.0111	45	-.2194**
6	25	-.0528	24	-.0361	49	-.0414
7	19	-.2775	20	-.1797	39	-.2215*
8	18	-.5990	20	.0372	38	-.3993*
9	18	.3825	19	.1890	37	.2576**
10	20	.0522	17	-.0274	37	-.0190
11	16	-.1458	17	.2718	33	.0190
12	16	.3380**	17	.0395	33	.1974
4 thru 6	73	-.1359	63	-.2415*	136	-.2011*
7 thru 8	37	-.4725*	40	-.1167	77	-.3000*
9 thru 12	70	.0664	70	-.0465	140	.0069
4 thru 12	180	-.1637*	174	-.2072*	354	-.1876*

* p<.05
** p<.10

Significant negative correlations between locus of control & mathematics results are observed for males (r=-.1637), for females (r=-.2672), and for both sexes (r=-.1876). Their respective coefficient of determination would be 2.68%, 4.29%, and 3.52%.

4.5.3. Relations Between Locus of control and English Results

Table 19: Correlation Coefficients between Locus of Control and English Results.

Grades	Male		Female		Total	
	n	r	n	r	n	r
4	23	-.01276	20	-.6355*	43	-.4903*
5	25	-.1918	20	-.2900	45	-.2398*
6	25	.0000	24	.0318	49	-.0138
7	19	-.3402**	20	-.4818*	39	-.3926*
8	18	-.4153*	20	.1550	38	-.2057
9	18	.3909	19	.0230	37	.1150
10	20	.1081	17	-.0742	37	.0461
11	16	-.4119*	17	.4545*	33	.0211
12	16	.2338	17	-.1128	33	.0636
4 thru 6	73	-.0926	63	-.2688*	136	-.1871*
7 thru 8	37	-.3847*	40	-.2638**	77	-.3170*
9 thru 12	70	-.0318	70	-.1155**	140	-.0787
4 thru 12	180	-.1507*	174	-.2373*	354	-.1942*

* $p<.05$
** $p<.10$

When the sampled students are taken as a whole, the relationship between English Results and Locus of control seem to be negative, low but significant. The coefficient of determination for males, for females, and for both sexes are 2.25%, 5.63%, and 3.77% respectively. The amount of variance shared by both variables were only these.

CHAPTER FIVE

DISCUSSION

In this section of the paper locus of control orientation is discussed in relation to: grade level (age), sex difference, academic performance, its antecedents, and studies in different countries.

5.1. School Level, Age and Locus of Control

According to this study, the hypothesis that progress in school level from elementary through high school is associated with being internal seems to hold since there is no basis to reject it (Pearson's contingency coefficient, $C=.27$, $p < .05$). Furthermore, analysis of variance (the assumption of homogeneity of variance was met, Cochran's $C=.3421$, $p > .05$) using the Scheffe multiple comparison procedure indicates that senior high school students have significantly higher average internality score than either elementary or junior high school students. On the other hand, elementary and junior high school students do not differ in their average internality score.

The proportion of explained variance which account for by both school level and sex is only 8.09% (and by school level alone is 7.64%). However, a single variable, like school level alone, is not expected to explain much of the variance in locus of control orientations. A similar result was found by Darge (1988) who reported the proportion of explained variance (by both grade level and sex) to be 8%. Unfortunately, most

researchers in this area did not report the amount of explained variance. The practical contribution of school level to the development of internal locus of control orientation is only 7.64% which indicates that there are more important variables than school level. Such variables may be the school curricula, value of peers & parents, parental behavior, etc.

The finding that progress in school level is associated with an increase in internality orientations can be explained in terms of the school system's frequent association of activity with feedback. Contingencies of students' activities with the feedback they receive (which could be in the teaching-learning process or in the extracurricular activities) is a cumulative process that grows with an increase in grade or school level.

Pearsons r also indicates a negative and significant relationship between external locus of control orientations and age ($r = -.15$, $p < .05$). This finding is consistent with Nowicki & Strickland (1973), Penk's (1969), Wolf, et al's (1982), and Ryckman & Malikiosi's (1975) who asserted internality to be positively associated with age. On the contrary, this finding is at variance with either Darge's (1988) and Crandall, et al's (1965) finding that grade level and overall internality are almost unrelated or Morris's (1975) finding that internality decreased with age. The discripancies in the findings may be because of the differences in the method of determining internality orientations. Both Crandall, et al and Darge used

IARQ[6] which is a very specific measure of internality orientation for academic outcomes. This kind of internality measure (i.e IARQ) may be more appropriate for the younger students than for the older ones (Darge, 1988). Furthermore, the two parts of the scale (i.e., internality for success and internality for failure) do not equally develop as the student progresses in age is also underlined by Darge. Morris's finding is, however, a bit difficult to explain, may be this is peculiar to Ghanian culture.

Concerning age group differences in internality orientations significant results are found. Less subjects in the late-childhood (age 8-13) group, and more in the adolescence (14-25) group are found to be internal (Person's Contigency Coefficient C= .16, P , .05). Because adolesence in this category has a very wide age range (i.e. age 14-25), the investigator uses two other categories of the age ranges: Late childhood (8-13), Early Adolescence (14-16), and Late Adolescence (17-25) is one classification; and late childhood (8-13), "Adolescence" (14-18) and "Youth" (19-25) is the other. In both cases, significant associations (Pearson's C[7] = .198, and C= .207, P< .05 respectively) are found with internality orientations. Results of the Scheffe procedure further indicate that subjects in the late adolescence (ages 17-25) are found to be more internal than either early adolescence (14-16) or

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[6] IARQ- Intellectual & Achievement Responsibility Questionnaire.

[7] C in this study refers to Pearson's Coefficient of Contingency.

late childhood (8-13). Similarly, subjects in both "adolescence" (ages 14-18) and "Youth" (ages 19-25) are significantly more internal than subjects in the late childhood (ages 8-13).

Results could be explained in terms of the increasing confidence, independence, and autonomy and not in terms of age or maturation per se (Phares, 1976). Hence, older children are more internal than younger ones may be because they become more confident and autonomous as they grow older. In other words, it may be because younger children are more dependent on their parents and teachers for most of their activities than older ones. The older ones may want to assert that they need little guidance from either the teacher or the parent. Furthermore, younger children are more likely to be easily frustrated by peers and by other powerfuls (such as parents & teachers) than older children who appear to be more confident and self-determined.

Subjects in the late childhood (ages 8-13) and those in the early adolescence (ages 14-16) are not different in their internality orientations may be because the feeling of dependence on their parents still persists and the question of independence begins afterwards when they feel that they are now older children.

5.2. Sex Differences in Locus of Control Orientations

With regard to the average internality score, this study shows that male and female students do not differ significantly

as determined by the t-test at each grade level from 5 through 12, at the elementary, junior high, and senior high school levels, or when the total subjects are taken as a whole. Only at grade 4 that males are found to be more internal than females. Generally, the hypothesis that there is no significant difference between male and female students in their average internality scores seems to hold since there is no basis to reject it. This finding is in line with several other studies (e.g. Belay, 1994; Chandler & Dugovics, 1977; Cole & Sapp, 1988; Crandall & Lacey, 1972; Duke & Nowicki, 1973; Edwards & Waters, 1981; Liftshitz, 1973; Misgina, 1994; Richert, 1981; Tebbi, Mallon, Richards, and Bigler, 1987).

On the other hand, this finding is contrary to the Crandall, et al's (1965) and Darge's (1988)[8] finding which state that female students are more internal than male students. The difference between these results may largely be due to the nature of the scale (IARQ) used. The scale consists of two subscales: Internality for failure and for success. Overall internality is the sum of the scores on the subscales. Failure, however, is not equally meaningful for males and females. Failure is more likely to be accepted by female students may be because of the expectations that females are less achievers than males (Sewinet, 1995; Phares, 1976). However, when male studemts fail they are more likely to be aggressive and defensive so as to be upto the expectations that males are generally better achievers. Even if success is

[8] Darge studied grade 4,7 and 11 students. In his study there was no statistically significant difference between male and female students in internality orientations, however.

equally meaningful, failure subscale makes a distinction where girls will be at an advantage in being more internal. Hence, girls are more likely to be internal on the overall scale.

Contrary to the finding that males and females are equally internal is the results found by other researchers (Findely & Cooper, 1983; Hoyenga & Hoyenga,1979; Lao, Chuang, & Yang, 1977; Misra, 1987; Mwamwend & Mwamwened, 1986; Stipek & Gralíniski, 1991) who assert that males are more internally oriented than females. This contradiction may partly be due to differences in measuring instruments . For instance, Lao, et al used Levenson's (1973) IPC (i.e., Internal, powerful others, chance scale) and Findley & Cooper reviewed fourty three studies which employed different scales to measure internality orientations. On the other hand, there are some studies which used CNSIE and found females to be less internal. A case in point is Misra's (1987) finding. In this case, the very nature of the Indian culture may expect & train males to be more dominant and responsible for their behaviors than females.

Before concluding that males and females are equally internally oriented, let's further analyze the responses of each sex on the basis of the factor analysis result.

Three factors emerged for males which accounted for 14.3% of the total variance. Factor I (Fatalism & Inactivity 10 items), Factor II (Effort & Personal Control, 5 items), and Factor III (Friendship & Self-esteem, 5 items) accounted for

6.2%, 4.5% and 3.6% of the total variance respectively. On the other hand, the three factors for females which accounted 15.4% of the total variance are Factor I (Futility of Effort, 11 items), Factor II (Fatalism & Inactivity, 6 items), and Factor III (Effort & Personal control, 8 items). Each of these factors accounted for 5.7%, 5.2%, and 4.2% of the total variance respectively.

Despite the fact that males and females score similar average locus of control scores on the CNSIE, the underlying factors for each sex is not identical. In other words, the concern over controlling (or failing to control) life events is not uniform across the sexes eventhough equal average internality score is obtained for both sexes. Whereas the two factors are extracted for males and females, the "third" factor makes a distinction. For males, Friendship & Self-esteem is the third factor. However, Futility of Effort is the "third" factor for females (Futility of Effort is the most important factor, infact the first, and not the third, for females).

A close examination of the items that loaded to the Factor called Futility of Effort may provide us hints about the concern. An attempt to participate in family decisions (item # 39), to be on one's own way at home (item # 31), to stop a quarrelsome person of one's age (item # 23,27, & 33), to be stronger than a person of one's age (item # 18), to make changes for good (item # 7,29, & 37), and to influence friends (item # 34) is useless for females.

This finding seems feasible in the sense that the female student spends most of her out-of-school-time ("sparetime") in the home supporting the mother and the family in household activities during which she has to obey what her parents order her to do. An attempt to be assertive so as to contribute something new is considered as being rude ("rude daughter") in most families. Further more, outside the home, males of the same age (or even older) can force her to obey to their requests otherwise no one will rescue her, even the policemen. Here again, an attempt to stop him is futile. In general, female students are expected to behave under the wills of powerful others (i.e. parents and the opposite sex).

Concerning the third factor for males, i.e. Friendship & Self-esteem, the items revolve around the right to make friends on one's own decision (item # 20), the possibility of changing a friend's mind (item # 12), the strength of peers in relation to himself (item # 18), and the blame for the faults he makes (item # 5). In most cases, higher self-esteem and autonomous activities in the affiliation area seems peculiar to males. Some practical examples can be forwarded. During their sparetime, male students are allowed to play with their peers. If a female student asks her parents to allow her to play with her friends like her brother, parents usually answer "your brother is a male." Whereas males are expected to spend most of their sparetime outside the home, females are expected to be in the home. Hence an exercise of control in the affiliation area is more likely experienced by males.

So far the discussion focuses on the factor that makes a distinction. However, the other common factors also need close examination. Concerning the factor called Fatalism & Inactivity, concentration of items that loaded on the factor are not the same for males and for females. Whereas 10 items loaded on the factor which accounted for 6.2% of total variance for males, only 6 items which accounted for 5.2% loaded on the factor for females. Although an analysis of this sort may not be ligitmate, a general trend can be pin-pointed. Regarding this factor, males and females seem to have similar fatalistic views (item # 8,10, 19 & 21). On the other hand, on the inactivity aspect of the factor, they are not the same. Whereas *carelessness* is the response to perceived failure experience by males (item # 1, 29, 37), perceived failure experience *collapses* the females (item # 16).

Finally, for females the two factors Effort & Personal Control and Futility of Effort are independent of each other. In other words, there are some life events that effort can be fruitful and other life events that effort doesn't make sense.

To sum up, generalizing that males and females do not differ in their perception of control over their life events (since they score similar average internality scores) is a very broad conclusion. One has to look into those aspects of life that are controllable and uncontrollable. The use of factor analysis is one strategy in such situations. Anderson, Madona, Bailey & Wesley (1987) after employing factor analysis, for instance, came to this same conclusion that subjects responses

to specific items or group of items is more important than simply looking into the total IE scores.

The finding that futility of effort is one factor that is unique to females was also found by Dixon, Mckee, & McRae (1976) using ANSIE[9]. They found a two factor solution where Factor I -Interaction with others-was for both sexes and Factor II- Luck -was for males only and Factor II- Futility of Effort- for females only. Likewise, Piotrowiski, Dunn, & Sherry (1983) found a four factor solution of the ANSIE in which case factor compositions were not similar for males and for females except for several items on Factor I. They concluded that gender did operate in the differential factor dimensionality. Although these studies delt with adults, the scale used was another version of the CNSIE.

There were also other studies which found that the kind of control that males and females exercise over their life events was not identical. For instance, Strickland & Haley (1980) factor analyzed Rotter's I-E and found a three factor solution one of which is Personal Control. This factor was not identical for males and for females. Whereas males endorse items that refer to leadership and personal influence aspect of personal control, females focused on planning ahead & personal destiny (self-direction & future orientation) aspect of personal control. Although this study used different

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[9] ANSIE- Adult Nowicki-Strickland Internal-External Scale. - It has the same content & number of items as CNSIE except for changes in word experessions (such as "kids" changes to "people").

measurement (i.e Rotter's I-E) and adult subjects, the implication of the finding was worth noting.

In another study Wolf, Sklov, Hunter & Skinner (1982) factor analyzed the CNSIE and found a three factor solution. They found that on Factor I females reported less personal control and more helplessness than did males. However, this study did not pin-point in which aspect of life females become more helpless than males; all in all? Hence, this finding lacks a detailed account of its assertions.

5.3. Locus of Control & Academic Achievement

Concerning the relationship between locus of control orientations and overall average results, significant negative correlation coefficients are obtained for the elementary ($r = -.23$), for the junior high ($r=-.27$), and for the senior high ($r = -.19$) school levels. Furthermore when grades 4 through 12 are taken as a whole, significant negative relationship is also found ($r = -.27$). Based on this result, the hypothesis that there is a relationship between the variables mentioned is not rejected. In other words, internals are generally better achievers than externals. This finding is in line with the findings of most researchers in the area (Belay, 1994; Boor, 1973; Crandall, et al, 1965; Chandler & Dugovics, 1985; Darge, 1988; Faustman & Mathews, 1980; Findley & Cooper, 1983; Ismail & Kong, 1985; Kennelly & Mount, 1985; Kishor, 1983; Mount, 1975; Maqsud, 1983; Messer, 1972; Misra, 1987; Mwamwenda & Mwamwened, 1986; Nowicki & Segal,

1973, Prawatt, et al, 1979; Rapp & Nowicki, 1978; Schimitz & Skinner, 1993; Turner, 1978; Trice, et al, 1987) who genrerally found internals to achieve better in classroom average results (GPA).

The proportion of shared variance (r^2) for the elementary, junior, and senior level students, and for all students are 5.29%, 7.29%, 3.61%, and 7.29% respectively. Although the proportion of explained variance seem very small, practically it is not . There are actually several factors that account for changes in academic achievement about 50% of which is intelligence or aptitude (Mewhrens & Lehmans, 1969) and about the other 50% (or more) of which are non-cognitive variables (e.g. interest, level of aspiration, beliefs, attitude, home conditions, etc.). It is the combination of the factors that contribute for the variation in the academic achievement. A contribution of 7.29% by locus of control alone is not low indeed, though not much.

On the other hand, this result contradicts the findings of some researchers who report that internal locus of control orientation is either unrelated (Brown, 1980; Cole & Sapp, 1988; Edwards & Waters, 1981) or is inversely related to classroom average achievement in which case externals are better achievers than internals (Sherman & Hoffman, 1980).

At the elementary, Junior high, and senior secondary school levels, significant associations are observed for females but not for males. This finding seems contrary to other

studies (Brown & Strickland, 1973; Roberst, 1971). However, when males and females are taken as a whole (in all grade levels) the relationship is significant (r=-.16, and r=-.38 respectively). This indicates that the relationship is higher for females (r^2 = 14.44%) than for males (r^2 = 2.56%). Again, this is contrary to Findley & Cooper's (1983) summary that the relationship is substantial for males than for females.

This finding could be explained in terms of females internality tendency for academic outcomes (Darge, 1988). Furthermore, factor analysis shows that female students' perceived effort & personal control could make changes over academic outcomes (item # 6, & 22) also gives a clue for the explanation. Therefore, the relationship between internality orientation and academic success is higher for females than for males may be because females are more internal than males in academic outcomes.

Withregard to achievement in mathematics significant associations are found for males (r^2 = 2.68%), for females (r^2 = 4.29%), and for both sexes (r^2 = 3.52%). Furthermore, similar patterns of associations are found between English language achievement and locus of control i.e. for males, r^2 = 2.25% for females, r^2 = 5.63%, and for both sexes, r^2 =3.77%. In both specific achievements, the shared variances (3.53% with mathematics, and 3.77% with English language) are relatively lower than the shared variance with overall average results (i.e. 7.29%). In other words, the measure of locus of control (CNSIE) may be associated substantially with a more general

achievement than with specific achievements. Furthermore, a specific attitudinal measure (e.g. attitude towards mathematics or language achievements) may better associate with the results in that specific area. Unfortunately, there are no studies that report the relationship between classroom mathematics and english results with locus of control (CNSIE). Most deal with overall GPA.

5.4. Antecedents of Locus of Control

Results of this study show non significant associations of locus of control with most of the factors concerning family conditions. Parents' ethnicity, marital status, occupation level, and family size do not contribute to their children's internal-external orientations. On the other hand, parents' behavior is significantly associated with children's internal-external orientations. More internals than externals evaluate their parents as either authoritative or permissive. More externals report that their parents are authoritarian. In this study more improtant than education and occupation of parents is their parenting styles.

The finding that parents education and occupation levels are not related to children's internality-externality orientations contradicts Nowicki-Strickland's (1973). This may be because in countries like USA variations in parents' education and occupation levels is higher than in our case where most subjects are found in a Low Support Environment (LSE). Concerning parental behavior the obtained result is

consistent with the literature (Bowlby, 1981; Gordon, Johnes, and Nowicki, 1979, Loeb, 1975; Nowicki & Roundtree, 1971; Nowicki & Segal, 1973; Nowicki, 1981; Sharma, Saraswathi, & Gir, 1981) in which internals most often than externals perceive their parents as warm, democratic, less conflictful and less controlling.

Whether children are monolingual or multilingual, first or later borns (or last borns), praying more or less, do not have associations with being internal or external. This is contrary to Crandall, et al's (1965) finding that first borns are more internal than later borns. Consistent with Tebbi, et al's (1987) finding, on the other hand, being more or less religious is not associated with being internal or external.

An interesting finding is that more externals than internals repeated grades at least once in their school lives and cut classes. That failure experience is associated with externality shows also that less academic achievement is related to being external, as is stated elsewhere in this study. Furthermore, benefits from attending classes are more valued by internals than by externals. In general, externals more often than internals repeat and miss classes.

So far there is no consistent result about whether success determines internality or vice versa (i.e., internality determines success). Nowicki & Duke (1983) reviewed several studies and concluded that internality causes achievement (p.30). On the other hand, Darge (1988) quoted Lancaster's

assertion that it works both ways (P.48). Although repeating classes (failure in achievement) is taken here as an antecedent of external locus of control orientation, the investigator thinks that locus of control can be considered as an antecedent of achievement as mentioned earlier. Hence, the impact is bidirectional.

5.5. Cross-cultural Comparisons

Children's Nowicki & Strickland Internal-External locus of control scale has been translated into several languages as reviewed by Nowicki & Duke (1983, P.19) Nowicki & Duke summarized some of the results of cross-cultural studies. They reported that Hungarian and Polish children were as internal as comparable American (USA) children. On the other hand, Asian and Black African children were more external than the same age American children. Also, Israeli children were found to be more internal than Arab or American children of the same age.

The mean scores obtained in this study can also be compared with the studies (see Appendix B) conducted among White and Black Americans, and Arab & Jew. The results found in this study are in most cases comparable to white American children's locus of control scores.

In this study comparable mean locus of control scores are obtained for the following grades[10] : Grade 5 with Gordon's

[10] Grades in this study are comparable with grades the mentioned researchers studied.

(1975) and Water's (1971); grade 6 with Ludwiasens (1971); grade 7 with Tyler & Holsinger's (1975); Grade 11 with Kueger's (1973); grade 12 with Nowicki & Roundtree's (1971) studies. Furthermore, Nowicki & Strickland's (1973) mean scores for grades 4 through 12 students are similar to those found in this study.

On the other hand, Black American 7th graders (Nowicki & Barnes, 1974) are more external than 7th graders in this study. Similarly, Black American 5th graders (Owens, 1973) are a bit more external than the 5th graders in this study. Furthermore, for an average age of 14, black male students (Nowicki & Barnes, 1973) are a bit more extenal (X = 16.48) than male students (X = 14.24) of the same age in this study.

Compared to Arabs and Jews of age 15-16 (Blum, 1973) both male and female students of the same age, in this study are significantly more external.

Most of the reviewed studies which are used for cross cultural comparison were conducted almost twenty years ago. Even then results in this study seem worth comparing with previous studies because a personality trait, like locus of control, is a relatively stable construct.

Another possible comparison between Ethiopian subjects and Black and White American subjects is to observe the percentages of scores obtained for each item on the scale (CNSIE). In the CNSIE manual, Black American (n=207) and white American

(n =139) 8th graders' responses (that were scored in the external direction) were tabulated in percentages. Similar tabulation was done for 8th graders (n =38) in this study. In this analysis, less than 30% of subjects respondidng to an item versus more than 70% of subjects responding to an item in the external direction are tabulated for Ethiopian and Amercian subjects. Less than 30% of the subjects responded in the external direction: by Ethiopian subjects for item # 1,2,4,6,7, 13,20,22,23,25,26,30,32,36,37, and 38; by Black Americans for item # 4,9,20,22,25,37,38, and 40; and by White Americans for item #1,4,6,7,8,9,11,14,19,20,21,22,23,25,27,28,32, 33,37,38 and 40. Like wise, more than 70% of the subjects responded in the external direction by Ethiopian subjects for item # 3,10,21, and 24; by Black Americans for item # 5 and 34; and by White Americans for item # 5,12, 30, and 34.

An interesting observation in this analysis is subjects' tendencies toward externality beliefs in certain items. More than 70% of Ethiopian 8th graders believe luck (item # 3 & 24), wish (item # 10), and fortune telling circumstances (item # 21) are more important factors that contribute to success. On the other hand, more than 70% of American 8th graders complain of undeserved blame (item # 5), inability to influence a friend (item # 12, & 34) futility of effort (item # 30). Surprisingly there is one item (# 21) which more than 70% Ethiopian 8th graders responded to in an external way, which comparable American subjects responded to in an internal way. To Ethiopian 8th graders, something labelled as fortune indicator is associated with success, whereas the American

subjects believe it is not. On the other hand, more than 70% of the Ethiopian 8th graders believe that effort can help to achieve a desired goal (item # 30), while comparable American subjects believe it can't.

CHAPTER SIX

SUMMARY, CONCLUSION, & IMPLICATIONS

A very condensed summary of results, conclusions based on the results, and implications of the results are presented in this section of the paper.

6.1 Summary

Using an amharic version of the CNSIE, 360 fourth through twelvth graders (of which 186 are males and 174 females) are studied. The main study is carried out after careful translation and refinement of the scales in the pilot study, in which case the CNSIE was found to minimally relate to social desirability response bias (r=-.15). The main objective of this study is to test whether or not locus of control orientation (a) develops with age (or grade level), (b) differs for males and females (c) relates with academic achievement. Furthermore, family factors affecting locus of control orientation are assessed and cross-cultural comparisons are made. In the data analysis t-test, x^2, Pearson's r, ANOVA, and Factor Analysis are employed. Findings are, thus, summarized as follows:

1. progress in school level from elementary to high school is associated with increase in internality orientation.

2. Senior high school level students are significantly more internal than either junior high or elementary school level students.

3. An increase in age from 8 through 25 is associated with an increase in internality orientations.

4. Adolescents (age 14-25) are significantly more internal than children in the late childhood (age 8-13).

5. Late adolescents (age 17-25) are significantly more internal than either early adolescents (age 14-16), or late childhood period children (age 8-13).

6. Males and females score similar average locus of control scores.

7. Factor analysis reveals that two factors (I-Effort & Personal Control and II-Fatalism & Inactivity) emerged for both sexes and one other factor for each sex (Friendship & Self-esteem, for males, Futility of Effort, for females). Furthermore, when sex is not considered, two factors emerged (I-Helplessness & Fatalism, and II-Effort & personal Control) which is an indicator of the CNSIE's factorial validity in the sense that the scale consists of internal and external factors or dimensions.

8. Internal locus of control orientation is associated with higher overall average achievement at the elementary, junior, and senior high school levels and when the whole subjects are considered. At these school levels, significant associations are obtained for females but not

for males. Generally the association is higher for females than for males.

9. With regard to achievement in Mathematics and English languages significant associations with locus of control orientations are found for males, for females and for both sexes together.

10. Parents' ethnicity, marital status, occupation and education level, and family size do not have associations with children's internal-external locus of control orientations. However, parents' behaviour is found to be a significant factor. More internals perceive their parents as either authoritative or permissive and more externals report that their parents are authoritarian.

11. Monolingual and multilinguals, first borns and later borns (or last borns), praying more and praying less do not have associations with being internal or external. On the other hand, more externals than internals repeat grades at least once in their school years and also miss classes more frequently.

12. Average internal locus of control score, in this study, is comparable to scores obtained in America (USA), though these studies were conducted over twenty years ago. On the other hand, subjects in this study are more internal than Black American subjects but more external than Jews and Arabs.

13. Item analysis shows that more than 70% of Ethiopian 8th graders are external on four items referring to luck (2 items), wishing, and fortune telling circumstances. On the other hand, more than 70% of comparable American subjects are external on other four items: complaining of undeserved blame, inability to influence friends (2 items) and futility of effort. Furthermore, more than 70% of the subjects in this study value fortune telling circumstances while the same 70% comparable American subjects do not. Likewise, more than 70% of the Ethiopian 8th graders believe that effort can lead to a desired goal, while the same 70% comparable American subjects do not believe.

6.2. CONCLUSIONS

Based on the findings of this study, the following conclusions could be drawn:

1. Children's internal locus of control orientation increases as they progress in school level from elementary to high school and with an increase in age as well.

2. Males and females generally are equally internally oriented but factor analysis shows that for females there are some aspects of life events that are controllable and other aspects of life uncontrollable (or where effort is futile).

3. Internal orientation is positively associated with higher overall academic achievement. The relationship is higher for females than for males.

4. Education and occupation level of parents do not make a difference for internally and externally oriented subjects. Parental behaviour, however, significantly contributes to children's locus of control orientations. Whereas more internals perceive their parents as either permissive or authoritative, more externals perceive their parents as authoritarian. Furthermore, more externals repeat grades and cut classes than internals.

5. Luck, wish, and fortune telling circumstances are more valued as "postive" attributes by 8th graders in this study than by comparable American Subjects.

6.3 Implications

In this section, implications of the findings, adequacy of the instrument (CNSIE), and directions for further research are discussed.

6.3.1 Implications of the Findings

a. The contribution of grade level to the development of internality orientation is 7.64%. In other words, as the child progresses in grade level from 4 through 12, only about 7.64% of the changes in locus of control orientations could be achieved. This contribution, in practical terms, is not low because this is the net contribution of one variable, grade level. However, the amount could be increased by considering several other factors in the school system, in the home, in the society, etc. The following examples are worth considering.

1. Revising the school curricula such as programmed instructions that facilitate the association of activity and feedback is one area of interest.

2. Whether or not teachers themselves use perceived internality (or externality) languages in classroom discussions may have an impact on the students' locus of control orientations (because students are more likely to imitate their teachers' behaviour).

3. The value that peers, parents, and the society as a whole, have for education in particular, for effectance in general, through hard work may also affect the children's locus of control orientations. Considering these and similar other factors along with grade levels may contribute much in the variations (or changes) in locus of control orientations.

b. The shared variance between locus of control orientations and overall academic achievement is 7.29% (i.e., r^2). This again is not low. This is because some researchers say that about 50% of the variations in academic achievement is accounted for by cognitive variables (e.g. intelligence tests), while the non-cognitive factors (such as locus of control & others) account for the remaining 50% (or more) of the variations. The combined effect of several non-cognitive variables (such as interest, level of aspiration, belief, attitude, family conditions, etc.) along with locus of control may increase the amount of shared variance in academic achievement. Furthermore, locus of control, as a

generalized expectancy, may be more an appropriate predictor of a general measure of achievement (i.e. overall average results) than of specific achievements (such as English & Mathematics).

c. Although the same average internality score is obtained for males and females, the responses of each sex to the items on the CNSIE are not identical. Factor analysis has revealed a three factor solution for each sex where only two of them are similar for both sexes. Whereas Friendship & Self-esteem is the factor for males, Futility of Effort is for females. Concerning the Factor Futility of Effort two suggestions can be forwarded:

1. Women's movement in the country ought to take note concerning the Futility of Effort aspect of females' locus of control orientation. This movement, by utilizing the mass media, for example, can include lessons for parents, daughters, peers, etc. with regard to how female students could make changes in the home and outside home.

2. The female student feels helpless to assaults,or abduction. This may be because of the loose nature of the national /regional constitution with respect to women's rights and/or because of the tradition that runs in the society which tolerates this kind of suppression.

d. More important than most factors in the home/family is the behaviour of parents. Warm, affectionate, democrat, reasonable, understanding parents are more likely to have internally oriented children. On the other hand, strict, punitive, arrogant, harsh, parents are more likely to have externally oriented children. During the period of school-parent relations and/or during the sessions of parent-child relations in the mass media, a lesson to parents concerning the impact of parental authoritarianism and authoritativism on children's perceived control of life events could be forwarded.

e. When cross-cultural comparisons, using item analysis, are made 8th grade subjects (more than 70% of them) in this study value luck, wish, and fatalism (i.e. fortune telling circumstances) as attributes associated with good consequences. This might be the value the society holds.

6.3.2. Adequacy of the Instrument (CNSIE)

a. Reliability of the Scale

Internal consistency using the split-half method, as corrected by the Spearman-Brown formula, is found to be .58, .68, and .66 for the elementary, junior high, and senior secondary school students respectively. When this is compared to the reported coefficients in the original validation of the scale it is more or less similar. For instance, Nowicki & Strickland (1973) reported the

following reliability coefficients using the split-half method: grades 3-5, r=.63; grades 6-8, r=.68; grades 9-11, r=.74; and grade 12, r=.71. The reliability coefficients found in this study are comparable to the reported reliabilities, and are tolerable or acceptable (eg. Nunnally's, 1967, assertion that .60 is an acceptable level of internal consistency for a construct; see Nowicki & Duke, 1983, p.13).

b. Factorial Validity of the CNSIE

When each sex is taken into account, three factors emerged where two of them are similar for both sexes and the other factor unique to each sex. When the whole subjects (both sexes) are taken, again, two factors emerged similar to those already extracted that are common for both sexes. These two factors are representatives of the internal and external dimensions of the construct locus of control. This is an indication of its factorial validity.

c. Usability/Utility of the Scale (CNSIE)

In light of the scale's (CNSIE) acceptable level of reliability, factorial validity, and its minimum relation with social desirability response bias, the investigator thinks that other researchers could also use the scale for further research.

6.3.3. Directions for Further Research

a. Factor analytic results show three factors (extracted from the CNSIE) where two of the factors are common for each sex and one of the factors unique for each sex. To verify this result using different sample representing the same population of children, or different adult population, further study may be launched.

b. An attempt is made concerning the influence of success or failure in achievement (i.e. repeating v_s. non-repeating grades) on internal-external locus of control orientations. Results show that repeaters are found to be more external than non-repeaters. Again, an increase in internality orientation is related to higher academic achievement (as revealed by Pearson's r). Therefore, both academic achievement and locus of control affect each other bilaterally. Even then, further study may be needed to refine the issue of whether academic achievement determines locus of control or vice versa.

c. The combined effects of several factors affecting locus of control is not done in this study. Along with grade level and parental behaviour, several other factors, when combined may better predict locus of control orientations. Hence, researchers may study this issue.

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Appendis A. ANOVA Summary Table The Effect of Sex and School Level on Locus of Control Orientations

Source	SS	df	MS	F	Prob.
Sex	14.126	1	14.126	.968	.326
EJS	431.798	2	215.899	14.795	.000
Sex X EJS	10.951	2	5.475	.375	.687
Explained	455.832	5	91.166	6.247	.000
Residual	5180.473	355	14.593		
Total	5636.305	360	15.656		

EJS= Elementary, Junior, and Senior School Levels.

Appendix B

A very good summary of studies on cross-ethnic and racial comparisons was compiled by Nowicki in his manual for Children's Nowicki- Strickland Iternal-External Locus lf control.

Summary 1 Mean scores of white elementary and high school children on the **CNSIE** Locus of Control Scale.

Author(s)	MALE X	SD	n	FEMALE X	SD	n	Total X	SD	GRADE OF Ss	AGE OF Ss
England (1973)	14.90 11.70	3.70 3.50	22 19	15.30 12.50	3.60 4.60	16 25	15.00 12.10	3.60 4.10	1 4	7 10
Nowicki & Strickland (1973)	17.91 18.44 18.32 13.73 13.15 14.73 13.81 13.05 12.48 11.38	4.62 3.58 4.38 5.16 4.87 4.35 4.06 5.34 4.81 4.74	44 59 40 45 65 75 43 68 37 39	17.38 18.80 17.00 13.31 13.94 12.29 12.25 12.98 12.01 12.37	3.06 3.63 4.03 4.58 4.23 3.58 3.75 5.31 5.15 5.05	55 45 41 43 52 34 44 57 53 48			3 4 5 6 7 8 9 10 11 12	
Gordon, B. (1975)	16.57	4.19	60	16.13	4.32	53	18.39		5	10.2
Nowicki & Walker (1973)	18.67	4.67	40	18.04	5.01	38			3	
Strickland (1972)							17.63 (n=30)	3.92	3	
Duke & Lancaster (1976)							13.28 (n=21)		4	10
Tyler & Holsinger (1975)	17.03 14.42 13.27 14.11		35 45 52 44	16.60 13.97 11.97 11.85		35 34 34 27			4 7 9 11	9.6 13.1 15.0 17.0
Waters (1971)	17.68	4.61	40	18.03	4.11	40			5	
Matheny & Edwards (1974)							15.99 (n=72) 16.41 (n=88)	3.97 3.42	6 6	
Ludwigsen (1971)	13.15	4.90	13.80	5.95					6	
Stone (1974)							14.11 (n=200)	4.56	7	
Wichern (1975)	11.58	3.55	40	12.98	5.04	40			7	13.0
Matheny & Edwards (1974)							12.77 (n=96)	4.19	10	
Kueger (1973)	13.87	3.11	14.11	2.67	96				11	
Nowicki & Roundtree (1971)	11.68	4.83	49	12.01	4.88	38			12	
Nowicki & Segal (1974)	13.20	5.87	58	11.65	4.31	54			12	
Egan (1975)	16.83		171	16.73	192	16.79			3	

Summary 2 Mean scores of ethnic and racial groups of children at the elementary and high school level on the CNSIE Locus of Control Scale.

Author(s)	Male X	SD	n	Female X	SD	n	Total X	SD	Grade of Ss	Age of Ss
Nowicki & Barnes (1973) Black Ss	14.48	3.48	261							14.6
Owens (1973) Black Ss	18.48		45	19.11		50			5	
Nowicki & Barnes (1974) Black Ss	22.41		55	24.26		54			7	
Nowicki & Walker(1973) Black Ss	23.21	5.68	14	22.68		14	21.53 (n=206)	4.82	3	
Roberts(1971) Black Ss					6.01		21.81 (n=191)	5.59	7	5 & 6
Tyler & Holsinger (1975) American Indians	19.11			18.80		45				
	15.14			16.81		62				
	14.93			14.54		50				
	12.07			12.91		34				
Werner (1975)										
Japanese	12.90			12.60	3.70	69	12.80	4.50		17.5
Mixture	13.70			14.20	4.80	25	13.90	4.40		17.5
Filipino	14.60			13.20	5.20	35	13.90	5.10		17.5
Hawaians	14.10			13.80	5.00	34	14.00	4.50		17.5
portugese	17.50			12.70	4.20	14	14.40	4.90		17.5
Blum (1973) (all subjects tested in Israel)										
Arab	16.83			16.41	3.25	22				9.2
Jew	15.09			14.11	3.27	32				9.3
Arab	9.96			12.81	4.81	38				15.7
Jew	9.13			8.95	4.22	58				15.8

APPENDIX C

ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF PSYCHOLOGY

QUESTIONNAIRE

OBJECTIVE: The purpose of this study is to examine students' perceived personal control of events and its relation with their academic performance. You are, therefore, kindly asked to respond to each question sincerely. Thank you in advance for your cooperation.

DON'T WRITE YOUR NAME

NOTE: Your responses will be confidentially held.

INSTRUCTION: There are two types of questions: (1) Questions with two or more options and (2) questions with blank spaces. When answering questions with options, encircle the letter of your choice and when answering questions with blanks, write your responses on the blank spaces provided.

PREPARED BY:

BELAY HAGOS

Oct., 1995.

QUESTIONNAIRE

PART ONE

a. GENERAL

1. Sex A.Male B.Female
2. Age _____
3. Place of Birth _____
4. What grade are you in now? _____ Your section ___

Roll N° _____

b. EDUCATION

5. How many schools have you changed so far?_____
6. Have you ever repeated grades? A.Yes B. No
7. If your answer to Q6 is YES, how many times did you repeat? _____
8. If your answer to Q 6 is YES, mention the grades you repeated. _____

C. LANGUAGE

9. Mention your mothertongue (first language) _____
10. How many languages do you speak? _____
11. Your father's ethnic background _____
12. Your mother's ethnic background _____

D. FAMILY

13. With whom do you live?
    a. with natural father & mother
    b. with step-father & mother
    c. with step-mother & father
    d. with father
    e. with mother

f. with relatives

g. alone

h. other (specify, if any) _____

14. Are you first born? A. Yes B. No

15. If your answer to Q 14 is NO, mention your ordinal position_____

16. How many brothers do you have? _____

17. How many sisters do you have? _____

18. Parents' marital status:

a. Live together

b. Are separated

c. Are divorced

d. Mother not alive

e. Father not alive

f. Both father and mother not alive

g. Do not know them

19. Occupation of your mother (female guardian)_____

20. Occupation of your father (male guardian)_____

21. Estimate your mother's (guardian's) income per month (in Birr) _____

22. Estimate your father's (guardians) income per month (in Birr) _____

23. Mother's level of education _____

24. Father's level of education _____

E. RELIGION

25. Mention your religion _____

26. Have you ever prayed? A. Yes B. No

27. If your answer to Q 26 is YES, how many times per day do you pray?

QUESTIONNAIRE

PART TWO

28. Do you like reading?

    a. Yes, very much

    b. Yes, somewhat

    c. Can't decide (Neither like nor hate)

    d. No, hate somewhat

    e. No, hate very much

29. How important is schooling to you?

    a. Very important

    b. Important

    c. Not Important and not Useless

    d. Not Important

    e. Not at all Important

30. Do you prefer going to recreational places even if there is a very important lesson being offered in the school? A.Yes B. No

31. Should a good student working on his/her examination

    A. Allow weaker classmets to copy

    B. Not allow weaker classmets to copy.

32. If an invigilator allows weaker students to copy from stronger ones,

    A. I think he/she is right

    B. I think he/she is wrong.

F. From among the following parental behaviours, choose the ones that you think most frequently characterize or do not characterize your mother (female guardian), father (male guardian), or parents (guardians).

	Parental Behaviours	Whose usual behaviour is this?			
		Father's	Mother's	Both Father's and Mother's	Neither Father's nor Mother's
1	Does not like to be questioned	A	B	C	D
2	Does not care if I study hard	A	B	C	D
3	Admits that I sometimes know more & better	A	B	C	D
4	Tells me not to argue with parents	A	B	C	D
5	Does not care if I get bad grades	A	B	C	D
6	Encourages me to look at both sides of issues	A	B	C	D
7	Gets upset when I get poor grades	A	B	C	D
8	Does not allow me to participate in family decisions	A	B	C	D
9	Does not care if I get good grades	A	B	C	D
10	Gives me more freedom to make decisions	A	B	C	D
11	Is never satisfied when I get good grades	A	B	C	D
12	Does not check whether or not I do my homework	A	B	C	D
13	Praises me when I get good grades	A	B	C	D
14	Encourages me to try harder and offers me help when I get poor grades	A	B	C	D
15	Does not know where I spend my spare time.	A	B	C	D

G. For each of the following 40 questions, encircle either (A) YES or (B) NO, depending on your belief in the idea of the statements.

YES	NO		
A*	B	1.	Do you believe that most problems will solve themselves if you just don't fool with them?
A	B*	2.	Do you believe that you can stop yourself from catching a cold.
A*	B	3.	Are same kids just born lucky?
A	B*	4.	Most of the time do you feel that getting good grades means a great deal to you?
A*	B	5.	Are you often blamed for things that just aren't your fault?
A	B*	6.	Do you believe that if somebody studies hard enough he or she can pass any subject?
A*	B	7.	Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?
A*	B	8.	Do you feel that if things start out well in the morning that it's going to be a good day no matter what you do?
A	B*	9.	Do you feel that most of the time parents listen to what their children have to say?
A*	B	10.	Do you believe that wishing can make good things happen?

A* B 11. When you get punished does it usually seem it's for no good reason at all?

A* B 12. Most of the time do you find it hard to change a friend's (mind) opinion?

A B* 13. Do you think that cheering more than luck helps a team to win?

A* B 14. Do you feel that it's nearly impossible to change your parent's mind about anything?

A B* 15. Do you believe that your parents should allow you to make most of your own decisions?

A* B 16. Do you feel that when you do something wrong ther's very little you can do to make it right?

A* B 17. Do you believe that most kids are just born good at sports?

A* B 18. Are most of the other kids your age stronger than you are?

A* B 19. Do you feel that one of the best ways to handle most problems is just not to think about them?

A B* 20. Do you feel that you have a lot of choice in deciding who your friends are?

A* B 21. If you find a four leaf clover, do you believe that it might bring you good luck/

A B* 22. Do you often feel that whether you do your homework has much to do with what kind of grades you get?

A* B 23. Do you feel that when a kid your age

decides to hit you, there's little you can do to stop him or her?

A* B 24. Have you ever had a good luck charm?

A B* 25. Do you believe that whether or not people like you depends on how you act?

A B* 26. Will your parents usually help you if you ask them to?

A* B 27. Have you felt that when people were mean to you it was usually for no reason at all?

A B* 28. Most of the time, do you feel that you can change what might happen tomorrow by what you do today?

A* B 29. Do you believe that when bad things are going to happen they just are going to happen no matter what you try to do to stop them?

A B* 30. Do you think that kids can get their own way if they just keep trying?

A* B 31. Most of the time do you find it useless to try to get your own way at home?

A B* 32. Do you feel that when good things happen they happen because of hard work?

A* B 33. Do you feel that when somebody our age wants to be your enemy there's little you can do to change matters?

A B* 34. Do you feel that it's easy to get friends to do what you want them to?

A* B 35. Do you usually feel that you have little to say about what you get to eat at home?

A* B 36. Do you feel that when someone doesn't like you ther's little you can do about it?

A* B 37. Do you usually feel that it's almost useless to try in school because most other children are just plain smarter than you are?

A B* 38. Are you the kind of person who believes that planning ahead makes things turn out better?

A* B 39. Most of the time, do you feel that you have little to say about what your family decides to do?

A B* 40. Do you think it's better to be smart than to be lucky?

Note: "*" is a response in the external direction; it is not indicated in the questionnaire.

H. for each of the following 11 statements, encircle either (A) Disagree or (B) can't Decide, or (c) Agree depending on your belief.

	Items	Disagree	Can't Decide	Agree
1	Nothing embarrasses me	A	B	C
2	I always return money when I get extra changes	A	B	C
3	I never hated anyone	A	B	C
4	I have never deliberately said something that hurt someone's feelings	A	B	C
5	Though I am in hurry, I never hesitate to go out of my way to help someone in trouble	A	B	C
6	I like to gossip at times	A	B	C
7	I like everyone I meet	A	B	C
8	When I make a mistake , I am always willing to admit it	A	B	C
9	I would never think of letting someone else be punished for my wrongdoing	A	B	C
10	I sometimes envy when someone excels me	A	B	C
11	I always tell the truth	A	B	C