

**Stanback's Integrated Model of Cognition**

**by**

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**Published in THE GRIOT, Fall 2003**

**March 29, 2002**

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**Introduction**

The model of cognition introduced in this article is based upon the principles of integration set forth by Farnsworth (1985) (1) and Carter and Narramore (1979) (2). To view the model and research in its entirety, see [The Testing of a New Integrative Model of Cognition Within the Context of a Continually Existing Educational Problem](#) (Stanback, 1993) (3).

**Stanback's Integrated Model of Cognition**

Stanback's Integrative Model of Cognition is built upon the disciplines of cognitive psychology, educational anthropology, and theology. It sets forth that human cognition is a fused, cyclical, interrelationship between the "cognitive components": the senses, intellect, emotion, will, behavior, and stored knowledge. The acquisition of knowledge involves the senses; the organization of knowledge involves the intellect; emotion, and will; behavior involves action; and an increase of knowledge (stored data) involves storage. The components function or operate upon consciousness; thus to be conscious is to learn or to be actively involved in the educational process in some manner, i.e., upon being aware of self and environment, learning occurs. All the domains of cognition are interrelated (or interdependent), but functionally, the appraisal of internalized experience (data that are internalized through perception) takes place within these three domains, i.e., intellect, emotion, and will, and is appraised by them. It is necessary to distinguish between these three domains theoretically but not functionally. Theoretically each are separate and distinct components of cognition yet functionally

they are fused. The simultaneous functioning of these three domains produces “meaning,” or the interpretation of one’s experience(s) to ones self.

*Meaning* is triplex: humans understand their experience(s) intellectually, emotionally, and volitionally. Because of the nature of cognition, innate in meaning is a historic, imminent, futuristic, element. When human experience is understood, reasoned, or intellectualized, ascribed as emotively good or bad, and appraised by the will as best to be avoided or approached, meaning occurs or is produced. These actions or the fused functioning of these three components transform our experience(s) into meaning. This is “new meaning,” analyzed, or stored data, which is a triplexed form with historical, imminent, and futuristic elements, is always immediately accessible to an individual. The meaning of every experience (i.e., in an accumulative sense) that one has had is always stored, accessible, and imminent, whereas every minuet detail about the experience or event may not be easily recalled, or even the experience or event itself. Meaning and storage are available upon the “initial” consciousness of the individual or at the beginning of life, including within the mother’s womb, and upon an infant’s initial experience with the real world (i.e., anything outside of the physical self). The storage of information and meaning is automatic and permanent.

Humans act upon the meaning(s) of their experience(s), or rather, their personal understanding of their experience(s). They always act upon their immediate perception of their immediate experience(s) which actions are affected by their stored meaning of the real world; this process is true of all the components of cognition. Behavior based on “situational perception” and stored meaning yields “behavioral meaning.” An individual gains new meaning from behavior and its repercussions, i.e., actions yield new meaning.

This meaning is processed and acquired the same as all other meaning. Behavioral meaning is automatically stored. Individuals also interpret the effects of their behavior. When humans act they are acted upon. This causes them to analyze their behavior or the effects and repercussions of their behavior. This is an internal as well as external function. The subjective meaning and or analysis of one's existence and one's understanding of self and one's own "being" are the fruits of these actions and processes.

Behavioral meaning is processed and acquired like all other meaning, thus it is triplex or threefold, being born out of experience the same as all other meaning. Knowledge and its interpretation are tantamount to experience. Thus, the threefold appraisal of one's action(s) affects perception of the real world; and action or behavior, in any experience, is based upon the immediate perception of that experience, which encompasses accumulative understanding of it. One's accumulative understanding of the real world and the self must be understood to include culture, socialization, home-raising etc., and from a sociohistorical perspective.

Cognition is a cyclic process. A completed cycle produces new knowledge which is stored immediately and permanently. Stored knowledge affects one's perception of the real world and is tantamount to one's *mentalist structure*.<sup>1</sup> Mentalistic structures are transformed, as a result of completed cognitive cycles and an increase of knowledge. Changes in mentalistic structures, i.e., changes in the sense of an increase of knowledge, result in changes in behavior. If one's behavior is to change, this change must be accompanied by a change in one's mentalistic structure. Based on the fused nature of cognition and simultaneously working together these two changes can be viewed as a "metamorphosis" in which the individual changes from within and without

(Metamorphosis means *to change from within and without*. This change is not to be confused with adaptation which entails modifications of an organism or its parts.) The changes in one's perception of, understanding of, feelings about, and volitional practice towards a real world, conscious experience parallel the changes in one metamorphic being, i.e., new knowledge adds to one's self.

Mentalistic structures undergo an increase of knowledge. One has stored data, yet one is continuously receiving incoming data. Neither stored nor incoming data are changed to facilitate this process as Piaget holds. This incoming data is immediately stored and constitutes an increase of knowledge, i.e., within one's mentalistic structure. Thus, one's perception of the real world and or one's self is constantly changing. Human behavior changes only (excluding physical or mental disabilities) as a result of an increase of knowledge (chemicals, drugs etc. also cause an increase in knowledge), thus one's mentalistic structure changes only in the sense of and via a combination of an increase of knowledge which results in one having access to more analyzed data to utilize. Accordingly, meaning is personal and permanently stored in one's mentalistic structure, therefore it perpetually affects one's perception of self and the real world.

In a context specific situation, mainly the educational arena, this is important to understand because stored information can be retrieved through the senses, therefore when students interact with educational curricula, they do so in a past, present and futuristic manner. They deal with it in the context of and in light of all their accumulated or stored knowledge (experiences). Students bring their lives to school and not an empty mind to fill. African Americans may have internalized an avoidance posture towards American schools, this is not the result of a collective stance, but rather, a tendency

characteristic of any human or group of human beings having had the same *experience*. The problem of African American's poor school performance may continue to persist because curricula are based on a lack of understanding and knowledge of human cognition. African American school children may enter school with a negative mentalistic structure toward American schooling and American society in general. They also have negative emotional experiences in school which combined with a negative mentalistic structure are likely to affect the functional role of the will in cognition: The children will choose to avoid such negative experiences thus perpetuating poor school performance.

The author designed and empirically tested an integrative model of cognition to establish a psychological premise upon which to base this argument. According to Cole and Scribner (1974), before one can do meaningful research in the field of cognition, a theory needs to be developed, one that integrates psychology and anthropology. Without a psychological foundation, the "meaning" of educational research findings in this area is ambiguous at best. The following are my research methodology, report of findings, and discrete interest.

### **Research Assumptions**

The assumptions are as follows: (a) The reason subordinate groups, particularly African Americans, continue to do so poorly in American schools is that the mentalistic structures upon which the American school system and its curricula are designed are lacking in their assumptions about an understanding of human cognition that (a) they misconstrue certain aspects of human cognition, (b) castelike students in the United States perceive the educational process as an unpleasant experience, thus causing them to

reject it and or acquire a negative posture towards it: this being the natural outworking of human cognition; and (c) African Americans do not believe that America's educational system has their best interest as its goal.

Students do not merely bring their "minds" to the classroom, they bring their lives. In life, everything they experience is permanently incorporated into their mentalistic structures. The underlying assumptions of this statement is as follows if (a) education is related to consciousness, then education is related to environment, (b) education is related to environment, then education is passed on from generation to generation, (c) education is passed on from generation to generation, then education is historical in nature, (d) education is historical in nature, then one's mentalistic structure is historical in nature, (e) education is related to environment, then the content of education is different in different environment, (f) the content of education is different in different environments, then the content of one's mentalistic structure is different in different environments, (g) all people have the same cognitive components, then in spite of the differences in environment, cognitively they still have some things in common (see Stanback, 1992 Chapters 2 and 3) (3).

Experience dictates the content of one's mentalistic structure, thus people themselves have more to do with what is in the mentalistic structure than providential nature. Using four separate self-designed questionnaires, the Mentalistic Structures, Cognitive Components, Emotion and Education, and Black Rose (see Stanback, 1992 Appendix A, C, & D for questionnaires and their findings) (3), the author tested her model in general for validity and specifically to see how it functions in explaining the

problems African Americans have had in schooling and to address the specific assumptions and hypothesizes on which she has chosen to focus.

The two main assumptions addressing cognition are as follows that: (a) cognition is related to one's experiential history and (b) functionally its components are interrelated. As one of the components of cognition, emotion (with its inherent valence<sup>2</sup> of pleasure and displeasure) affects the learning process of an individual by extension, then, the nature of the African American experiential history regarding education, incorporating many negatively valenced emotional experiences, may contribute to explaining why African Americans do so poorly in American schools.

In the interest of furthering the understanding of the phenomenon of poor school performance among African Americans in the United States, the four questionnaires mentioned above were designed to explore the two main assumptions via several of their logical derivations.

#### Assumption 1: Experience

The essence of the first assumption is that experience both impacts and shapes the content of mentalistic structures. Several logical extensions of this assumption lead to testable hypotheses. First, as experience changes across historical eras, so mentalistic structures shift. Since the *African American experience* has changed massively since the slavery era, the model predicts that the mentalistic structures of African Americans today will be significantly different from those of African Americans during the slavery era. The segregation and Black consciousness raising eras also provide time frames for which one can legitimately assume that the *experience* of most African Americans were affected

as a whole. So the mentalistic structures of African Americans today will be most like those of the Black consciousness raising era and less like those of the slavery era.

Second, if experience affects mentalistic structures, then one would expect that African Americans for whom one can assume shared experience will have similar mentalistic structures. So African Americans today will have some mentalistic structures for which the content is very similar for individuals because they can be expected to share some experiences across society. Also, because individual experience will differ even across one society, it is unlikely that individuals will always agree with each other with regard to the content of mentalistic structures.

Third, the shifts in mentalistic structures that are expected across eras are likely to be influenced by major shifts in experience which distinguish one era from another. Under “normal” circumstances, parents will be significant contributors to their child’s experience. Therefore, the child’s mentalistic structures will be heavily influenced by parents’ mentalistic structures. Under these conditions, mentalistic structures are likely to be similar between adjacent generations.

#### Assumption 2: Related Components

The essence of the second assumption is that all six components of cognition (the senses, intellect, emotion, will, behavior and stored knowledge) work together. The model postulates that all the cognitive components always work together. However, it is unlikely that any one questionnaire designed for this study is fine-tuned enough to demonstrate this consistency. The author hypothesizes that the interconnection between the components of cognition could be demonstrated within a particular situation.

Because of the author's interest in African American school performance, future derivatives of the second assumption are focused on cognitive functioning in the academic setting. In this setting it is unlikely that there will be substantive disagreements regarding the importance of four of the cognitive components: the senses, intellect, behavior (performance) and stored knowledge. However, it is her contention that emotion and will are equally important but have been historically overlooked. Due to limitations of exploratory research, emotion was chosen as a focus for this investigation (see Stanback, 1992 Appendix C the Cognitive Components Questionnaire.) (3).

The first such derivative is that since emotion is an integral component of cognition, students will have emotional responses to the academic setting. Second, since all the cognitive components work together, they will impact one another. Emotion therefore is likely to provide a tenor or atmosphere to the whole of the cognitive process. The valence of emotion was expected to be demonstrably related to the functioning of the other cognitive components. Third, not only will students have emotions regarding the academic setting, but since these emotions will have a valence, it will be related to the students' posture toward school.

Thus, the related hypotheses are as follows: (a) the mentalistic structure of African Americans today will be most like those of the Black consciousness raising era and least like those of the slavery era; (b) African Americans today will have some mentalistic structures for which the content is very similar across individuals, however, not all mentalistic structures will demonstrate high similarity across individuals; (c) the mentalistic structures of African Americans will be similar between adjacent generations; (d) the six cognitive components (the senses, intellect, emotion, will, behavior and stored

knowledge) can be demonstrated to work together within a particular situation; (e) students will have emotional responses to the various aspects of the academic setting; (f) the valence of emotion will be related to the functioning of the other cognitive components and to the student's view of learning as a process; and (g) the valence of emotion generated in school will be related to the students' emotion or attitude about school.

In addition, each questionnaire was designed to test different aspects of the model itself. Specifically, in reference to the application of the model and its relationship to the question of why African Americans continue to perform so poorly in school, the Mentalistic Structures Questionnaire tests the nature of the relationship between stored knowledge and the real world, i.e., African Americans' experience within the United States, and American education or schooling. The Cognitive Components Questionnaire tests the fused nature of cognition, i.e., the nature and role of valenced emotion in cognition, the organization of knowledge (see Stanback, 1992 Figure 1a and 1b) (11), and the relationship between the real world and the cognitive components. The Emotions and Education Questionnaire tests the nature of valenced emotion in cognition and the relationship between the cognitive components and stored knowledge. The Black Rose Questionnaire tests the nature and function of cognition and its components, the fused interrelationship among the cognitive components themselves, and the relationship between the real world, the cognitive components, and stored knowledge.

### **Research Methodology**

The purpose of this research study is to begin an empirical test of the validity of Stanback's integrative model of cognition and certain assumptions made by Ogbu

regarding the tendencies and characteristics of castelike people in the United States, particularly African Americans. This was done through the use of five self-designed questionnaires: a demographic questionnaire, Mentalistic Structures, Cognitive Components, Emotion & Education, and Black Rose Questionnaires.

### Participants

The participants in the study were people of various races and ethnic groups, the highest percentage of them being African Americans, Asians, and Hispanics. The respondents to the Mentalistic Structures Questionnaire were only African Americans. The participants for all four questionnaires were drawn at random from people within the Los Angeles and Orange County areas of California.

The instruments were given to each participant individually by a researcher. Young children were given the option of having the questionnaires read to them. Many questionnaires were distributed in public schools and churches. All the usable instruments returned were included in the analyses for this study. With regard to each participant's and institution's right to privacy, anonymity was maintained, and the promise of this anonymity was communicated to each participant during the initial testing phase of this study.

### Distribution

The instruments were distributed at random to people of various races and ethnic groups within the Los Angeles and Orange County areas of California. Many were distributed at random to participants in their homes or standing on the streets in the city of Los Angeles. With prior permission, many were distributed to students attending public schools by their teachers and in a Bible School in Los Angeles. Permission was

solicited from several pastors to distribute the questionnaires among people of various age groups within their congregations; each institution was asked to supply research assistants to help administer the instruments.

### Instrumentation

Because of the nature of the model introduced in this study, it was necessary to construct five self-designed questionnaires. Each questionnaire was tested and modified to the satisfaction of those who participated in the piloting phase of this research (cf., Wiersma, 1986, p. 288 (4). One of the goals was to design questionnaires that corresponded to the age level of the participants and which were not offensive to them.

Several of the questionnaires are quite lengthy, but this is expected in educational research because it covers a broad spectrum of phenomena (cf., Wiersma, 1986, p 292-3) (4) Additionally, most of the youth who participated in this research indicated that they enjoyed interacting with the cognitive components questionnaire; also the adults indicated that the mentalistic structures questionnaire was inoffensive, but was still a “soul searching” questionnaire. Each questionnaire was completed by the participants in 35 minutes or less.

The Mentalistic Structures Questionnaire was designed specifically to draw upon certain information within the mentalistic structures of African Americans living in the United States. The Cognitive Components Questionnaire assessed the relationship between education and the various components of cognition; here education encompasses learning. The Emotions and Education Questionnaire assesses the relationship between emotion and education. The Black Rose Questionnaire is a meanings assessment questionnaire, designed specifically to test the respondents’ responses to an objective

phenomena (the black rose) in six areas: perception, intellect, emotion, will and/or behavior, and stored knowledge.

### The Mentalistic Structures Questionnaire

The purpose for designing the Mentalistic Structures Questionnaire was to test the nature of the relationship between the African American history of experience and the mentalistic structures of African Americans today, and to empirically test certain of Ogbu's assumptions regarding African Americans.

To construct this questionnaire Stanback drew from mental conceptualizations found in three sources written by African Americans: To be a Slave (Lester, 1968) (5), What Color is Your God (Salley & Behm, 1981) (6), and A Testament of Hope: The Essential Writings of Martin Luther King Jr. (Washington, 1986) (7). These concepts were then posed in contemporary questions (cf. Adams, 1975, pp. 164-5) (8). The original writings discussed the ideas African Americans held during the periods of slavery, segregation to ghettoization, and Black consciousness. In designing this questionnaire, only primary sources were used.

Three statistical procedures were conducted on the collected data: (a) a correlation between the collected data (representing the responses of African Americans today) and the key (representing the mentalistic structures of the African American during the three eras), (b) a repeated measures Analysis of Variance (ANOVA) of the participants' percent of agreement with the key for each time period, and (c) correlations between the participants' mean scores and the demographic data.

An agree or disagree answer was required for each question. There were only two categories because what was being measured was whether the participants believe or

disbelieve the statements posed in the questionnaire, not their attitude toward these issues.

Ogbu also makes certain statements regarding the beliefs of African Americans, beliefs about their relationship to White Americans in this country. Another of Stanback's intent was to determine whether these assertions were espoused by the participants of this study.

All of the participants in this study were chosen at random, meaning anyone qualified, because Stanback proposes that cognition functions the same in everyone. Anyone who is an African American is qualified to participate in the Mentalistic Structures Questionnaire, because the content of their mentalistic structures are related due to their common heritage.

It became necessary, because of age, for the researcher to read the questionnaire to some of the participants. Nevertheless, each researcher was instructed not to give any indications of whether there were right or wrong answers to the questions, nor was he or she to use any voice inflections, gestures etc. which would indicate anything contrary to this.

#### The Cognitive Components Questionnaire

The Cognitive Components Questionnaire was constructed to test the interrelationship between the various cognitive components. The statistical procedure that was run to test the nature of the relationships among the cognitive variables was a correlation procedure.

Incorporated into each questionnaire is one or more of the cognitive components and a context-specific situation. This questionnaire was meant to determine (a) if there

are demonstrable interrelationships among the various components, and (b) if there is a perceived relationship between the valence of emotion and learning. Another intent was to try to determine if there was a fused relationship among all the cognitive components in this context-specific situation. A special interest was whether there would be a context in which all the cognitive components were displayed.

### The Emotion & Education Questionnaire

The Emotion and Education Questionnaire was constructed to test the nature of the relationship between (a) emotion and education, (b) emotion and learning, and (c) emotions generated in school and emotions or attitudes about school. Correlation procedures were conducted to test the nature of the relationship among the variables as specified below.

In this questionnaire, education setting was delineated as the curriculum, instructor, administration, and students of other ethnic groups or races. Before this questionnaire was designed, it was established that there is a relationship between emotion and education. The labeled emotions in this questionnaire were chosen at random from the ones listed on a pilot questionnaire. Certain assumptions about cognition are held by Stanback, some of which are as follows that (a) it is related to one's experiential history; (b) functionally, its components are interrelated; (c) a different understanding of it is needed to help determine why African Americans do so poorly in American schools; and (d) emotion with its inherent valence of pleasure and displeasure affects the learning process of an individual. The five questionnaires used in this research, in various ways, were designed to address all these assumptions.

## The Black Rose Questionnaire

The Black Rose Questionnaire was constructed to test (a) the interrelated relationship among the cognitive components, and (b) the accuracy of Stanback's definitions and the labels which she had assigned them. The participants were asked to interact with an imagined objective reality, the black rose, and give a description of, or inform the researcher of their interaction with it. The statistical procedure that was run to test these relationships was a Matrix Correlation. Two underlying presuppositions were that (a) one's perception of the rose is based on stored knowledge, and (b) if this is an impossible task, then the participants will not be able to accomplish or complete it. If they do respond to the questionnaire, then Stanback will assume that these actions are indeed possible, and did occur at the moment they interacted with the questionnaire. This would also indicate that until contrary research findings are found, the model of cognition set forth in Stanbacks' work is feasible.

Additionally this questionnaire tests the relationship between the valence of the emotion and its interrelationship with the other cognitive components. The participants of this questionnaire varied in race, gender, and ethnicity.

### **Report of Findings**

#### Summary of Hypothesis

Without the logical transitions, and for ease of reading, the hypotheses investigated in this study are listed below: All hypotheses were tested at the .05 level of significance. For a diagram of the integrative model of cognition, all charts, questionnaires and results, and diagrams related to this study, refer to Stanback, 1992, the appendices.

- Ho. 1 The mentalistic structures of African Americans today will be most like those of the Black consciousness raising era and least like those of the slavery era.
- Ho. 2 African Americans today will have some mentalistic structures for which the content is very similar across individuals, however, not all mentalistic structures will demonstrate high similarity across individuals.
- Ho. 3 The mentalistic structure of African Americans will be similar between adjacent generations, that is between those 30 years of age and younger, and those 31 years of age and older.
- Ho. 4 The six cognitive components (perception, intellect, emotion, will, behavior, and stored knowledge) can be demonstrated to work together within a particular situation.
- Ho. 5 Students will have an emotional response to the various aspects of the academic setting (administration, curriculum, instructor, and students of other races).
- Ho. 6 The valence of emotion will be related to the functioning of the other cognitive components and to the students' view of learning as a process.
- Ho. 7 The valence of emotion generated in school will be related to the students' emotion or attitude about school.

### The Delimitations

This study does not attempt to resolve the problem of the castelike students' failure within the United States. This study also does not attempt to give a specific application of the model set forth in the study for curriculum design.

### Discrete Interest

Additional research findings of John Ogbu's work are discussed under the heading of Discrete Interest.

### Demographic Description

The demographic descriptions are given for each questionnaire individually. Only the ones relevant to this study are tabled.

### Mentalistic Structures Questionnaire

In the Mentalistic Structures Questionnaire 135 participants were asked questions pertaining to the following: age, grade level, sex, marital status, place of birth, race, religion, and city in which their school is located. Their ages ranged from 11 years to 67 years of age (mean = 36.26, SD = 14.55). Their grade levels ranged from the 4<sup>th</sup> grade to the 13<sup>th</sup> grade level (college and above). The largest percent of these were married (51.90%) and females (52.67%). All of them were African Americans and Christian. Their place of birth and location of school were distributed.

### Cognitive Components Questionnaire

In the Cognitive Components Questionnaire 137 participants were asked questions pertaining to the following: age, grade level, sex, and marital status, place of birth, race, religion, and city in which their school was located. Ages ranged from 7 years to 48 years of age (mean = 13.27, SD = 7.066). Grade levels ranged from the 2<sup>nd</sup> grade to the 13<sup>th</sup> grade level. The largest percent of them were single (95.62%) and African American (57.66%); and attending school there (47.41%).

### Emotion and Education Questionnaire

In the Emotions and Education Questionnaire 100 participants were asked questions pertaining to the following: age, grade level, sex, race, religion, and type of school in which they attended (i.e., religious or none-religious). Ages ranged from 10 years to 57 years of age (mean = 18.75, SD = 10.088). Grade levels ranged from the 7<sup>th</sup> grade to the 13<sup>th</sup> grade level. The largest percent of them were females (56.348%). They were mostly African Americans (51.55%) and Christians (98.67%). Most of them attended non-religious schools (67.57%).

### Black Rose Questionnaire

In the Black Rose Questionnaire, besides the main focus of the questions, 218 participants were asked to give their race only. The largest percent of these were African Americans (African Americans 46.51%, White Americans 25.58%, Hispanic 15.81%, Other 12.09%).

### Discussion of Hypotheses

The statistical procedures conducted in this research were Frequency Distribution, Matrix and Correlation Coefficient,  $t$ -test, and ANOVA. All calculations were computed on a Stat-View 512 statistical program and were two-tailed with an alpha level set at .05 significance.

#### Ho.1

Overall, 45% of the participants agreed with the key, 15% with the first section (Slavery), and 29% with the second section (Segregation to Black Consciousness), thus indicating that there has been some change in the mentalistic structure of African Americans during these time periods.

The participants' responses were converted to percentage of agreement with the key for each of the three time periods. A repeated measure ANOVA was conducted to determine the level of agreement with the three time periods, a higher mean score indicated a higher percentage of agreement with a time period.

Table 1

Repeated Measures ANOVA for Mentalistic Structures Mean Scores of Agreement.

Factor	Mean	Standard Deviation	Standard Error
Slavery	.421	.121	.011
Segregation	.446	.145	.013
BC	.643	.148	.013

BC = Black Consciousness

Comparison	MD	Dunnnett t:
Slavery vs. Segregation	-.025	1.926
Slavery vs. BC	-.222	16.972*
Segregation vs. BC	-.197	15.048*

Significant at  $p < .05$

MD = Mean Deviation

The group's mean scores for each time period show that they agreed least with the period of Slavery (mean = 42.1%, SD = 12.1%), more with the period of Segregation (mean = 44.%, SD = 14.5%), and most with the present time period of Black Consciousness (mean = 64.3%, SD = 14.8%). The Dunnnett  $t$ -test demonstrated that there were significant differences between the time periods of Slavery versus Black Consciousness ( $t = 16.97, p < .05$ ), and Segregation versus Black Consciousness ( $t = 15.05, p < .05$ ), no significance was shown between Slavery versus Segregation. An analysis of the data shows that there is a shift in the mentalistic structures of African Americans today, across the three time periods of Slavery, Segregation, and Black Consciousness. They agreed least with the period of Slavery, more with the period of

Segregation, and most with the period of Black Consciousness, showing that the content of their mentalistic structures have changed as their experiences in America have changed. This supports the contention that experience does affect one's mentalistic structure.

Ho 2

Using a frequency distribution procedure to determine the participants' percentage of agreement with each other, it was determined that 95% of the group agreed with each other only on 6.12% of the questions, 75% or more of the participants agreed with each other on 40.82% of the questions, and at least 50% of them agreed with each other on 94.90% of the questions, indicating both cohesion within the group and individual differences.

Ho. 3

Also, using the same percent distributions, the data was divided by both eras and ages: younger (below 31 years) and older (over 30 years). Using descriptive measures, mean scores were obtained for each era, and grouped according to the participants' ages.

Table 2

Mean Score Eras.

Era	Younger Mean	n	Older Mean	n
Slavery	.418	40	.418	81
Segregation	.470	40	.426	84
BC	.626	37	.654	77

BC = Black Consciousness

A t-distribution procedure was conducted and showed no significant difference between the mean scores of older and younger African Americans for any of the three time periods ( $t = .255, p > .05$ ). Marital status, place of birth, sex, and grade levels also

demonstrated no significant impact on responding to the Mentalistic Structures Questionnaire. These findings further indicate a cohesion among the mentalistic structures of African Americans today.

In summary, the findings from these research procedures indicate that (a) there is a relationship between the mentalistic structures of African Americans today and the mentalistic structures of those who lived during the periods of Slavery, Segregation, and Black Consciousness, and related most closely to the period of Black Consciousness and least closely to the period of Slavery; (b) there is both cohesion and individuality among the mentalistic structures of African Americans today; and (c) there were no significance differences between the older and younger African Americans' response to the Mentalistic Structures Questionnaire, further supporting that there is a cohesion among their mentalistic structures.

#### Ho. 4

A primary look at the data for the Cognitive Components Questionnaire indicated that the participants understood and were willing to respond to the items. This is important because the items of this questionnaire espoused the fusion of the various components of cognition.

An analysis of the data shows that in response to both the negative and positive questions, there is a consistency among the participants' understanding of them, which included their understanding of the valence within emotion. Also, within each correlation there is present one or more of the cognitive components which were focused upon in the questionnaire, thus indicating a general relationship between them within such situations

as posed on the Cognitive Components Questionnaire (i.e., questions 4 and 46 correlated significantly with questions which contained all six cognitive components).

In the Black Rose Questionnaire each cognitive component was represented. First the students were asked to imagine a black rose (stored knowledge) and give their perception of it (pretty, ugly etc.). Next they were asked what they thought (intellect) about the rose and why. Then they were asked how the rose made them feel (emotion), and if they wanted to get closer or farther away from it (behavior and will). Lastly, they were asked again what they thought of the rose (possibly new knowledge).

A Matrix Correlation procedure was conducted to determine the nature of the relationship among the cognitive components themselves. An analysis of the data shows positive relationships among all the components, but no significant relationship between them and race, 46.51% of participants were Africa American. The positive relationships indicate a fusion of the components. Also, all but three of the entire gamut of answers were skewed towards a negative or a positive valence or slant, thus indicating an interrelationship among the cognitive components (e.g., stored knowledge, perception, thoughts, feelings, valence, and suggested behavior were either all negative or all positive towards the black rose).

An analysis of the data from the Black Rose Questionnaire shows a fused interrelationship among the cognitive components themselves; a relationship between stored knowledge, the real world (the black rose), and cognition; and a positive and negative valence among the cognitive components indicating the influence of emotion on the other components.

Ho. 5

A Frequency Distribution procedure was conducted, and an analysis of the data showed that emotion does play a part in the educational setting. Participants of the Emotions and Education Questionnaire were asked to indicate if they had ever experienced certain positive and negative emotions while interacting with (a) administrators, (b) curriculum, (c) instructors, and (d) students of other races while attending school. Total, there were 793 responses for administrator, 866 respondents for curriculum, 1128 respondents for instructors, and 1061 responses for students of other races. These were then divided according to negative and positive responses, and then by ethnic groups.

Table 3

Frequency by Race for the Emotion and Education Questionnaire.

Race	ED Component	P Frequency	N Frequency	N
AA	Administration	51%	49%	347
AA	Curriculum	56%	44%	409
AA	Instructor	59%	41%	558
AA	Student	60%	40%	504
AS	Administration	31%	69%	153
AS	Curriculum	47%	53%	171
AS	Instructor	53%	47%	214
AS	Student	62%	38%	253
HS	Administration	60%	40%	202
HS	Curriculum	51%	49%	195
HS	Instructor	65%	35%	221
HS	Student	54%	46%	193

AA = African American  
AS = Asian  
HS = Hispanic  
ED = Education  
P = Positive  
N = Negative  
N = Number of frequencies

There were not enough participants represented in the missing races to analyze the data, further research is needed in this area. The data are noteworthy in that aside from the percentages and ethnic differences, students displayed emotional responses to all four facets of the academic setting. It is also interesting that among these ethnic or subordinate groups the emotions are predominately positive. It would be interesting to compare these percentages with comparable responses for majority ethnic students. However these data were not available (further research is needed in this area).

#### Ho. 6

There was a positive relationship between positive emotion and learning on the Emotions and Education Questionnaire. In question 29, those who participated in the questionnaire were asked to indicate whether they learned more while experiencing positive emotion or negative emotion; 82.47% indicated that they learn more while experiencing positive emotion.

Participants of the Cognitive Components Questionnaire were asked to answer whether they agreed or disagreed with both positive and negative statements relating to their schooling. In each question, one or more of the cognitive components were specifically emphasized; then the questions were divided into two groups, positive and negative. Item 20 states, "learning feels good when I'm happy," and Item 33 states, "learning feels bad when I am sad." A correlation procedure was conducted to determine the nature of the relationship between questions 20 and all the positive questions on the questionnaire, and question 33 and all the negative questions on the questionnaire. Of the positive questions 67.74% correlated significantly with question 20; 42.42% of the negative questions correlated significantly with question 33.

Participants interacting with the Cognitive Components Questionnaire were also asked to indicate if positive emotion enhanced their learning and if negative emotion hindered their learning. A Frequency Distribution was conducted and showed that 82.48% answered yes and 17.52% answered no to question 20 (“learning feels good when I’m happy.”), and that 54.89% answered yes and 45.11% answered no to question 33 (“Learning feels bad when I am sad.”). An analysis of the data also showed positive correlations between (a) positive emotions and the enhancement of learning and positive school experiences, and (b) negative emotions and the hindrance of learning and negative school experiences. In both cases the participants confirmed that positive emotion enhances learning and negative emotion hinders learning.

Interestingly, the Emotions and Education Questionnaire showed that 82.47% of the participants said that positive emotion enhanced learning, whereas 17.53% said that negative emotions enhanced learning. Also as stated above, on this questionnaire, 54.89% of the participants said negative emotion hindered learning whereas 45.11% said it did not, leaving less than a 10% difference between the two answers. This indicates that although negative emotion hinders learning it does not hinder it altogether, thus suggesting that students do learn in negative situations. The question is what do they learn in negative educational arenas? This research does not attempt to address this question, but it does hold that whatever they are learning it has an inherent negative valence within it, and may give researchers some indication as to why African Americans have high expectations but low performance within the American educational arenas.

The research findings also indicate that there is a general fusion between the cognitive components themselves, both within a negative and a positive educational

situation. The data showed this fusion exists between the components by the fact that (a) questions incorporating each of them in an educational/school setting were endorsed (agree with) at some point in the participants' responses and that (b) the questionnaire had one question for each valence (questions 46 & 4) which displayed correlations with other questions indicating all of the components. Based on the storage of knowledge and the fused nature of cognition, another implication is that one's mentalistic structure may have enough stored valence so that, for some individuals, "learning" in an immediate negative situation does not delete all the value of the learning from the situation.

Ho 7

Table 4

Correlations between Questions 28, 29, and 30 on the Emotion and Education

Questionnaire.

Variable Pairs	N	r
28 & 29	214	.286*
29 & 30	91	.N.S.
30 & 28	95	-.205*

\* Correlation Coefficient significant at .05 alpha level

N.S. = No Significance

Participants interacting with the Emotion and Education Questionnaire were asked to answer yes or no to questions 28, 29, and 30, i.e., (a) positive emotion (feeling) makes them like school more (better), (b) if they learn more when experiencing positive or negative emotion, and (c) if negative emotion make them like school less (worse).

First a Frequency distribution procedure was conducted to determine the participants' percentage of agreement or disagreement with these three questions, the cumulative frequency for each question is as follows: (a) 89.90% yes and 10.10% no, (b) 82.47% positive and 17.53% negative, and (c) 73.96% yes and 26.04% no. Next a Correlation

procedure was conducted to determine the nature of the relationship between these three questions.

An analysis of the data shows that there is a positive relationship between questions 28 and 29, a negative relationship between questions 28 and 30, and no relationship between questions 29 and 30. This indicates that there was (a) a positive relationship between positive emotion and one's like of school and (b) a negative relationship between positive emotion and one's dislike of school, i.e., the more the participants endorsed the statement that positive emotions contribute to liking school, the more they also indicated that negative emotions contributed to disliking school. Also a frequency distribution showed that 73.96% of the participants indicated that negative emotion makes them like school less. Thus, an analysis of the data indicates that the participants believe that positive emotion makes one like school more whereas negative emotion makes one like school less.

Data from the Cognitive Components Questionnaire also indicates that negative emotion makes students like school less while positive emotion makes them like school more. Following is an analysis of the research conducted on Ogbu's assumptions.

### **Discrete Interest**

#### Mentalistic Structures Questionnaire

##### Ogbu

Questions from Ogbu's work were included on the Mentalistic Structures Questionnaire; the following is an analysis of the data. Questions numbers 72 and 80 through 87 pertain to his work. A frequency distribution was conducted to determine the

groups' percentage of agreement with the key, i.e., answers corresponding positively to Ogbu's research findings and or assumptions stated in his writings.

The following is a description of the results obtained: (s) 66.67% of respondents do not trust White Americans in this country; (b) 77.12% agree that the political system in the United States functions in a way which is designed to keep them at a lower social and economic status; (c) 94.17% agree that the political system in America is dominated by White males; (d) 92.56% agree that White Americans in this country have more advantages than they do. The remaining questions produced responses that were fairly evenly distributed between agreement and disagreement.

Respondents (a) are not in agreement as to whether they and their teachers think alike: those in the college level and older basically agree that they and their teachers do not think alike; (b) are divided as to whether they have faith in America's educational system: those between the college level and 31 years of age do not believe that America's educational system has their best interest as its goal; (c) do not agree on whether education is a means of getting what they want in this country; (d) are divided on whether education has the power to rid this country of racism; and (e) are not in agreement with whether education has the potential power to rid this country of social and economic barriers which exist between African Americans and Whites in this country.

Only questions 72 and 80 through 82 have a two-thirds or more agreement rate among the participants. Based on a 50% and above agreement with the key, the findings of this sample agreed with one half of Ogbu's assumptions and disagreed with the other half, nevertheless many of the research findings from the Mentalistic Structures and Cognitive Components Questionnaires corroborated his research findings, and a

triangulation of both our research findings would show that they are similar in many ways. Ogbu's assumptions, which are ethnographic in nature, can be tested upon the psychological framework presented in this study. Notwithstanding, more research needs to be done in this area, i.e., each of his assumptions need to be tested individually, and on such a framework.

### **Summary of Findings**

An analysis of the research data indicates that experience does affect one's mentalistic structure, and that the six cognitive components (the senses, intellect, emotion, will, behavior, and stored knowledge) are functionally related. Today, the African Americans' mentalistic structure is least like that of African Americans who lived during the slavery and segregation eras and more like those living during the Black Consciousness era, showing that (a) the content of their mentalistic structures have changed as their experiences in America have changed and (b) that there is a cohesion among the mentalistic structures of African Americans today, indicating that they have changed on a continuum which parallels their historical experiences in America. Mentalistic structures are similar between adjacent generations (i.e., those 30 years of age and younger and those 31 years of age and older). All six cognitive components can be demonstrated to work together within a particular situation. Students do have emotional responses to various aspects of the academic setting (administration, curriculum, instructors, and students of other races). The valence<sup>2</sup> of emotion is related to (a) the functioning of the other cognitive components, and (b) a student's view of learning as a process. The valence of emotion generated in school is related to a student's attitude towards the schooling process. Notwithstanding, further testing in the areas of multiple

contexts and facets of life are needed on the model itself and more research is needed within all the above areas.

Ogbu's assumptions relating to why African Americans continue to do so poorly in school were also tested on the psychological framework provided by this study (the triangulation of the author's findings will verify this.)<sup>3</sup>

In relation to education, the findings show that participants report that positive emotion enhances learning, while negative emotion hinders learning, also that positive emotion causes one to like school, while negative emotion causes one to dislike school; notwithstanding, negative emotion does not hinder learning altogether. The students in this research say they think, learn, and work better in positive schooling situations as opposed to negative ones. Further, all the cognitive components are related to the educational process, therefore, they should be treated as such.

As a result of addressing and testing an integrative model of cognition, this study has provided a new integrative model of cognition upon which to base further research studies in the area of poor school performance among African American and other subordinate group students. It has also shown that maybe the solution to this problem has eluded previous researchers because their studies were built upon faulty or insufficient frameworks. It also shows that previous research findings have failed to consider the affect and effect of negative emotional experiences and one's ability to choose and or exercise one's will within an educational arena. Lastly, contrary to the research findings of the Kerner Report, African Americans today express a high degree of self-esteem and view themselves as separate but equal to Anglo-Saxon Americans.<sup>4</sup>

## **Conclusion**

An analysis of the data shows some validity of the two underlying assumptions. This indicates that the model provides a base for further research. The discussion emphasizes the contention that the problem of African American's poor school performance may continue to persist because curricula are based on a lack of understanding and knowledge of human cognition. African Americans may enter school with a negative mentalistic structure toward American society in general (not school). They have negative emotional experiences in school which combined with a negative mentalistic structure are likely to affect the functional role of the will in cognition: The children will choose to avoid such negative experiences, thus perpetuating poor school performance.

## **Endnotes**

1. Mentalistic Structure: The mentally stored experiences of one's entire life, it is all these experiences that occupy the space designated mentalistic structure.
2. Emotion has a valence: See Stanback, 1992, pp. 138-176, "Black Rose Questionnaire."
3. See Stanback, 1992, Discrete Interest: Ogbu's Taxonomy, pp. 173-176.
4. See Stanback, 1992, Appendix C, Findings of Mentalistic Structures Questionnaire.

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