

2001

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Deficits versus Differences: African American Children's Linguistic Paths towards a Theory of Mind

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1. Introduction

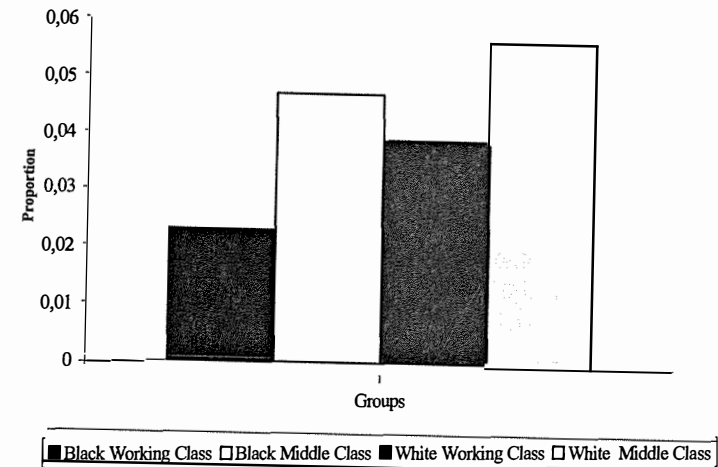
Historically, African American children's development has been characterized mostly in terms of deficits. Language acquisition is no exception (Bereiter and Engelman, 1966; Deutsch, 1967; Hall and Nagy, 1987a; Hall and Nagy, 1987b; Hall, Scholnick and Hughes, 1987; Hart and Risley, 1995). In general, these researchers argue that there are basic deficits in the amount and complexity of the language used especially in low-income African American homes. It is thus argued that low-income African American children's language development suffers from insufficient input and that such inadequacies result in other cognitive delays (Bereiter and Engelman, 1966; Deutsch, 1967; Hall and Risley, 1995).

The development of a theory of mind is one such cognitive skill that has been purported to show developmental delays in low-income African American populations because of the presumed deficiencies in language. It is argued that the development of a mature theory of mind depends upon socialization experiences conveyed in large part by language about the mind and more specifically talk about others' mental states (Astington, 1992; Astington and Jenkins, 1995; Brown and Dunn, 1991; de Villiers and de Villiers, 2000; de Villiers and Pyers, 1997; Gopnik and Slaughter, 1991). Many of the studies on the differential amount of talk about mental states in African American homes relative to the amount of talk about mental states in the homes of their white middle-class counterparts bore out earlier claims of deficiencies. For example, a current analysis of the use of mental verbs in the Hall (CHILDES, 1984) samples of Black and White middle-class and working-class families produced the graph shown in Figure 1. Thus, it is not surprising that when theory of mind studies such as that conducted by Holmes, Black and Miller (1996) show African American children's performance to be delayed relative to their White middle-class counterparts, the presumption of language deprivation in the home becomes the ready explanation.

The present paper raises one of many major problems with the past research. More specifically, the question is raised with regard to how the presumption of language deficits has been studied, especially the use of language deemed necessary for the development of a theory of mind. The data used to argue that

there are deficits in the quality of language encountered in working-class African American households, namely the reduced frequency of references to the mind and mental states, results from language transcripts where simple counts of mental verb usage are recorded for different race/class groups. While such a coding scheme lends a gross measure of mental verb usage, it tells us nothing about the syntactic structures in which such verbs were used. Yet recent theories argue that it is not just the amount of mental verb usage that is the necessary precursor to the development of a theory of mind. Rather, it is maintained that it is the mastery of complement sentences with mental verbs that enable the ultimate development of a theory of mind (Astington and Jenkins, 1995; de Villiers and Pyers, 1997; de Villiers and de Villiers, 2000). The theory of complement sentences also includes communication verbs as a possible linguistic route to a theory of mind because such verbs allow for the same syntactic structures as mental verbs (Astington and Jenkins, 1997; de Villiers and Pyers, 1997; de Villiers and de Villiers, 2000).

Figure 1. Frequency of Parent's Use of "Mental Verbs" by Race/Class Groups



Thus, the present investigation challenged the traditional analyses by examining the use of both mental and communication verbs within complement sentences by different race/class groups. Moreover, such usage was recorded for both children and parents. It was hypothesized that the differences in gross usage observed in the earlier studies may have been artifactual in that much of the coded usage of mental verbs may have resulted from more routinized or opinion marking use in some groups (i.e., "I don't know" or "I think I will have an apple"). Such usage would not be pertinent to the socialization around mental states.

2. Methods

Data of the conversational interaction from 39 children were computerized by William Hall and donated to the CHILDES in 1984. The sample consisted of 39 preschool children divided approximately equally according to race and socioeconomic status as follows: middle-class black, middle-class white, working-class black and working-class white. The children were between 4.6 and 5.0 years old.

Language samples were collected over two days for each child. On each day an average of two and a half hours of conversation were recorded in a variety of situations (at home, at school). The language samples include speech from several sources including parents, teachers, experimenters, and others in the home and school.

Speech excerpts were selected using target mental verbs, such as think, know, believe, and forgot. Speech excerpts were also selected targeting the use of communication verbs such as say and tell. The list of verbs was quite long and included forms of a more colloquial variety such as "bet" and "figure."

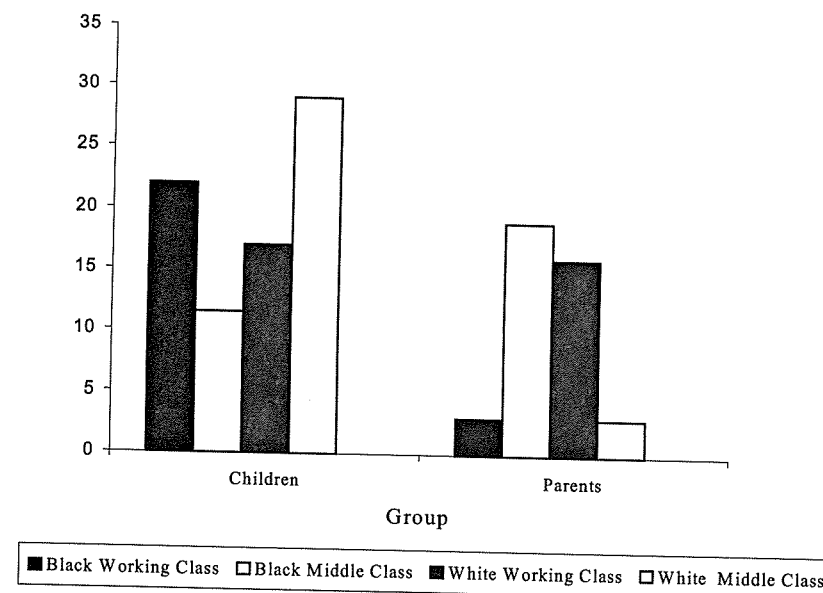
We counted the number of times these verbs were used by parents and children in two types of complement sentences: (1) Tensed Complements such as "He thought she was going downtown" for mental verbs and "She said he was going downtown" for communication verbs and (2) Infinitives such as "She forgot to make dinner" for mental verbs and "She said to cook it" for communication verbs. The resultant data were the number of times complements and infinitives were used by each child and each target parent.

3. Results

Four separate 2X2X2 ANOVAs repeated on the third factor were generated. In each analysis the independent variables were race (black vs white); class (working-class vs middle-class) and type of complement (tensed complement vs infinitive). The dependent variable was frequency of use of mental verbs or communication verbs. Two of the ANOVAs were the parents' data and two were the children's data for each of the types of verbs (mental and communication).

Significant three-way interactions emerged for both the parent and child analyses of mental verbs ($F, 1,32=12.72; p<.001$ and $F, 1,33=8.04; p<.008$, for parents and children respectively). As shown in Figure 2, for the parents, tensed complements are used much more with mental verbs in Black middle-class and White working-class families than either Black working-class or White middle-class families. In contrast, for the children White middle-class and Black working-class children use more tensed complements with mental verbs than either Black middle-class or White working-class children.

Figure 2. Frequency of Children's and Parents' Use of Mental Verbs by Race/Class Groups for Tensed Complements



On the other hand, while infinitive use with mental verbs occurred less often than tensed complements in general, parents from all race/class groups used them more than Black working-class parents. Children's use of mental verbs in infinitive structures was mostly non-existing. These data can be seen in Figure 3.

In turning to communication data, the three-way interaction between race, class and type of complement approached significance for the parents ($F, 1,35=3.33; p<.08$) and was statistically significant for the children ($F, 1,33=9.95; p<.000$).

Figure 3. Frequency of Children's and Parents' Use of Mental Verbs by Race/Class Groups for Infinitives

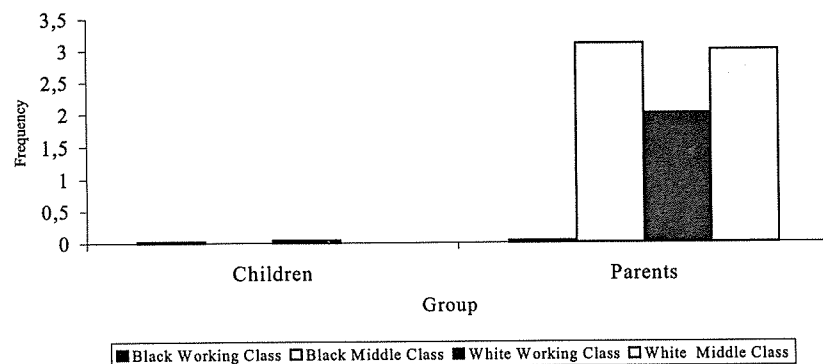


Figure 4 shows that while the use of communication verbs with tensed complements was most among the White and Black middle-class families, it was the least among the working-class Blacks. Again, in contrast, Black working-class children show the greatest use of communication verbs with tensed complements followed by White middle-class children. Black middle-class children use the least amount.

Figure 4. Frequency of Children's and Parents' Use of Communication Verbs by Race/Class Groups for Tensed Complements

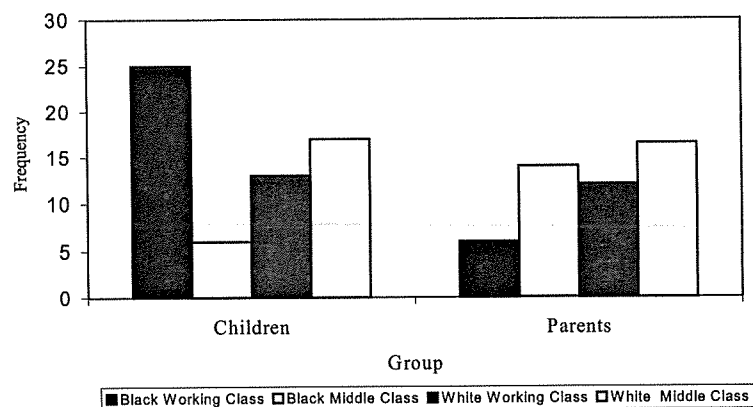
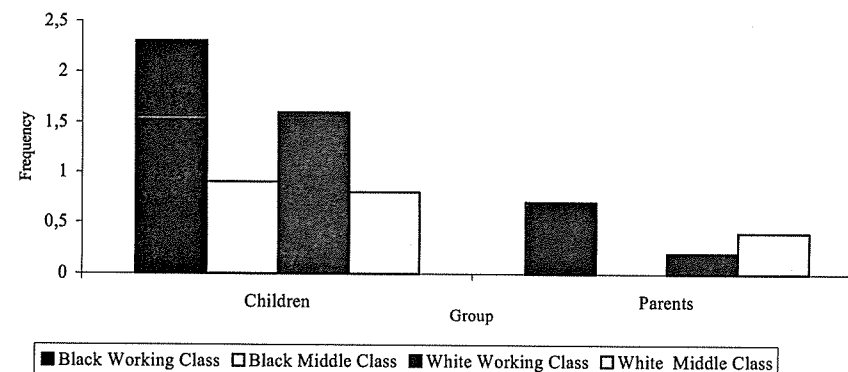


Figure 5. Frequency of Children's and parents' Use of Communication Verbs by Race/Class Groups for Infinitives



4. Discussion

From the present analyses it becomes clear that the past focus on gross usage of mental verbs by different race/class groups painted an erroneous picture of the level of complexity inherent in the verbal sophistication of working-class African American children relative to White middle-class children. Indeed, the present data suggest that when language transcripts are coded for the use of both mental and communication verbs within tensed complement sentences, especially, it is the Black working-class and White middle-class children who produce more of these types of verbal exchanges. Moreover, Black working-class children's production of tensed complements and infinitives with communication verbs surpasses all other groups.

Why the latter occurs may be specific to the type of talk that predominates in these homes. That is, evidence from cross-cultural work suggests that a very salient aspect of African American culture, especially that cultivated within working-class homes, is the premium placed on communal bonds between people (Allen and Boykin, 1992; Boykin, 1994). Thus, it seems reasonable that in such a contextual environment children will be exposed to more speech about people leading to greater use of communication verbs.

Yet, one puzzling aspect that emerges from this data is that the parent input for working-class Black families is relatively low for both mental and communication verbs. On the face of it, this would seem to substantiate the verbal deprivation hypothesis. However, the Black working-class parents' input for tensed complements with mental verbs is almost identical to that of White middle-class parents. Are we then to assume the same verbal deprivation for the White middle-class sample?

Most significantly, there appears to be no relationship between input and output. Where parent input is low, child output is generally high and where parent input is high, child output is relatively low. Several possibilities occur to us. (1) Children might be more willing to talk freely regardless of the presence of a microphone, whereas some parents may be more reticent in such situations. (2) Some parents may be talking so much that the children do not have a chance to speak. (3) Equally as plausible, however, is the notion that there may be a threshold of exposure. Clearly the Black working-class and White middle-class children are producing complex sentences with both mental and communication verbs. So the question may be, is there a certain level of input that is sufficient for mastery of complements? Indeed, why the input-output differentials occurred awaits further empirical testing. But one thing that seems to be clear is that the focus on sheer amount of usage of mental and communication verbs without consideration for syntactical structures may be a bit misleading.

So, from the present data it seems that Black working-class children's verbal skills are at least on a par with their white middle-class counterparts and in some instances they show accelerated performance. The follow-up question may then be why haven't these skills transferred to the development of a theory of mind? To date, one of the only published studies to investigate theory of mind using Black working-class children is that authored by Holmes et al. (1996). In that study, the children were drawn from a sample of kids participating in the Head-Start program. Head-Start, like most government programs of its type, was established to lend poor children an educational advantage. In most cases, to qualify for such programs one's household income must be well within the poverty limits. So in essence the group of children used to generalize about theory of mind in working-class Black children may have been a very biased sample. That is, poor people regardless of race have many factors affecting their lives including nutrition and health. How do these other factors influence cognitive growth?

But then too, are all working-class children poor children? In a recent thesis (François, 1998), a sample of working-class Black children were tested on various theory of mind tasks. Some of the children were attending pre-school and some were being home reared. All of the children were about four years old. All of the families were working-class with family incomes above the poverty line. The results showed that both home and school children performed within normal ranges on the theory of mind tasks, normal as defined by having performance trends equal to those reported in the literature for White middle-class samples. Hence, the findings were similar to those reported in the present paper. Together, these data sets suggest that Black working-class children are not as disadvantaged linguistically or cognitively as the literature may lead one to believe and thus, at least two cautions emerge for future work. First, if one is assessing how rich a linguistic environment is, it is important to consider more than frequency of forms; it is also necessary to consider the complexity of the sentential contexts. Second, when considering class as a cultural variable, it is

important to pay attention to the distinction between poor, at-risk, families and working-class families. This is especially true for minority populations.

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