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MODERATING INFLUENCE OF SELECTED DEMOGRAPHIC VARIABLES ON READING ACHIEVEMENT OF STUDENTS WITH READING DISABILITIES IN IBADAN, OYO STATE

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Abstract
This study investigated the moderating influence of selected demographic variables: gender, age, family type, school type and birth order on reading achievement of students with reading disabilities in Ibadan, Oyo State. The study adopted a descriptive survey, using two hundred and eighty-two (282) students with reading disabilities from seven secondary schools randomly selected from both public and private schools in four (4) local government areas of Oyo State. Participants were selected through random sampling with the use of an adapted version of the Learning Disabilities Screening Inventory by Learning Disabilities Association of Ontario (LDAO, r=0.63). Two other instruments used to collect data for the study were: The Reading Disabilities Screening Test (RDST, r=0.70), and The Students' Test of Reading (STR, r=0.72). Multiple regression analysis was used to answer two research questions raised. Although the joint contribution of the demographic variables on predicting reading achievement of the study was not significant, the result further showed that two independent variables:

gender and family type were independently significant in influencing the reading achievement of students with reading disabilities. Gender had the highest contribution of 29.5% (ß=.295, t=4.592, p<0.05) followed by family type with 23.9% (ß=.239, t= 3.458,p<0.05). This was followed by school type with 8.5% (ß=.085, t= 1.383,p>0.05), birth order contributed 6.5% (ß=.065, t= 1.092,p>0.05), and age had the lowest contribution of 2.0% (ß=.020, t=.337, p>0.05). Based on these findings, it was recommended that English Language teachers who teach reading should pay attention to all students in their classrooms, especially those with reading disabilities. This is because when teachers make concerted effort to teach their students, reading achievement of these students improves. This is a trend in a positive direction and should be encouraged at all times.

Keywords: birth order, family type, reading achievement, reading disabilities, school type,

Introduction

Reading is arguably the most important of all the skills students learn. As a process, it involves interpreting, distinguishing and manipulating of materials from print form. It is a means of gaining knowledge about many different subjects and of understanding the world. Despite efforts to teach all students how to read effectively, students with reading disabilities experience a significant gap between the expected level of performance and actual achievement, just as with other common learning disabilities. Thus, according to Casalis (2004), a student is considered to have a reading disability if his or her level of reading is at least one to two years behind that which is expected for his or her age, despite conventional instruction, adequate intelligence and sociocultural opportunity.

Reading disabilities vary from person to person while common characteristics among students with reading disabilities include: slow reading speed, poor comprehension when reading material either aloud or silently, omission of words while reading, reversal of words

or letters while reading, difficulty decoding syllables or single words and associating them with specific sounds (phonics), limited sight word vocabulary, problems with spelling, confusion with directions or right/left-handedness, confusion with opposites (up/down, early/late), delays in spoken language and disorder of written expression (Lerner & Kline, 2006).

Difficulties with basic print reading and reading comprehension are the most common problems associated with learning disabilities (Gersten, Fuchs, Williams, & Baker, 2001). Vaughn and Wanzek (2014) found that students with disabilities do not make progress in reading at the same rate as students without disabilities, and that reading instruction for students with reading disabilities is comprised of excessive amounts of low level tasks. However, Vaughn, and Wanzek (2014) reported that findings from intensive intervention studies suggest positive impacts for students with reading disabilities.

Five demographic variables namely, gender, age, family type, school type and birth order are considered by the researcher as moderating variables in this study. On gender variable, literature reveals that some correlation appears to exist between gender and reading achievement. For instance, Hedges and Newell (1995) found that in science, boys outperform girls, but in reading and writing girls have the advantage. Coley (2001) found that females scored higher than males in reading and writing across all ethnic and age groups. This gap widened for most groups as the students progressed through school.

In the same way, Entwisle, Alexander, Olson (2007) found that the gender gap emerges relatively late in the elementary school experience. Another research has shown that girls have better reading skills than boys in kindergarten (Chatterji, 2006), and that this advantage persists throughout elementary school (United State Department of Education, 2006). More so, Lazarus (2013) studied fifty junior secondary school students with learning disabilities in Lagos State, Nigeria and found that females performed better in reading comprehension than their male counterparts.

Grissom (2004) in his study concluded that the negative relationship between age and achievement remains constant over time. White (1982) showed that as students become older,

the correlation between age and school achievement diminished. According to White (1982) schools provide equalizing experiences, and thus the longer students stay in the schooling process, the more the impact of age on student achievement is diminished.

Ng and Feldman (2008) noted that there are three most cited quantitative reviews of literature on the relationship between age and performance. Waldan and Avolio (1986) found a moderate relationship between age and performance. In their own study, McEyoy and Cascio (1989) found that age was largely unrelated to performance. Also, Sturman (2003) found that age and performance relationship took an inverted-U shape. In addition, Ogundokun and Adeyemo (2010) found that together with emotional intelligence and academic motivation, age is a potent predictor that may be mildly associated to academic achievement.

The family has the potential to influence a child's academic achievement. This is because it is the first environment of the child. The initial experience that would mould the child's values, aspirations, emotions, interest and attitudes are offered by the parents/family (Okeke, 2009). What the child learns at home and how his family motivates him towards education contributes to the child's success in school (Essien, 2002).

Osuafor and Okonkwo (2013) explained that family structure could mean whether the family is monogamous or polygamous. Monogamy refers to a system of custom whereby a man or woman is allowed to have only one spouse at a time while polygamy is a system which allows one to have more than one wife, as in Nigeria and many other African countries. Adesehinwa (2013) studied the effects of inter-relationship between family type and academic achievement of students using three hundred respondents and found that a significant relationship exist in the overall academic achievement of students from monogamous families and those from polygamous families.

Likewise, Adelabu and Paul (2004) noted that private schools are regarded as the only avenue to achieving high learning outcomes. As a result, there is increased demand for private schooling even by the very poor in society. However, Sander (1999) disagreed that private schools directly raise the standard or quality of education through competitive pressures but not in doubt that low quality public schooling increases

the demand for private schooling.

Furthermore, a number of studies including Behrman and Taubman (1986), Plug and Wijverberg (2003), and Bonesrønning (2003) found that birth order and family size have significant effects on student achievement. Older siblings are found to achieve higher test scores and to have a higher propensity to attain college, than younger ones, presumably because the oldest siblings and the children in small families receive more education resources at home.

Apparently, researchers and educators do not seem to have drawn the curtain concerning the influence of gender, age, family type, school type and birth order variables on reading achievement of students with reading disabilities. Rather, they are still seeking relevant facts regarding the influence of the selected demographic variables on the reading achievement of students with reading disabilities. This gap has necessitated this study.

Purpose of the Study

The present study investigated the moderating influence of five selected variables (gender, age, family type, school type and birth order) on the reading achievement of students with learning disabilities.

Research Questions

1. What is the composite contribution of the demographic characteristics (gender, age, family type, school type and birth order) of students with reading disabilities on their reading achievement?
2. What is the relative contribution of each demographic characteristic (gender, age, family type, school type and birth order) of students with reading disabilities on their reading achievement?

Method

The descriptive research design was adopted for the present study to investigate the moderating influence of certain demographic characteristics on the reading achievement of students with reading

disabilities in Ibadan Metropolis of Oyo State. This comprised all students with reading disabilities in senior secondary schools in Ibadan Metropolis of Oyo State. Multistage sampling technique was adopted to select the study participants. First, there was a random sampling of four local government areas out of the eleven Local Government Areas in Ibadan Metropolis of Oyo State. The selected Local Government Areas are: Ibadan South-East, Ibadan North, Akinyele and Oluyole Local Government Areas. Then seven secondary schools were randomly selected from both public and private schools in the selected Local Government Areas of Oyo State. Selected schools include: Ajibode Grammar School, Ajibode (Akinyele), Community High Secondary School, Sango, (Ibadan North), HumaniAlaga High School, Sango/ Samonda, (Ibadan North), Immanuel College, University of Ibadan, (Ibadan North), Yinbol College Orogun, (Akinyele), Idikan Baptist College, Felele, (Oluyole), and Ibadan Grammar School, Molete, (Ibadan South-East).

Furthermore, from these schools, two hundred and eighty two (282) Senior Secondary School 1 (SS1) students with reading disabilities were purposively selected. The inclusion criterion was the presence of reading disabilities. A total of forty (40) students were selected from the first six schools listed while forty-two (42) students were chosen from the last school that is from Ibadan Grammar School, Molete, (Ibadan South-East).The demographic characteristics of participants are presented as follows: gender (male-132; female-150); age (between 12-14 years- 94; between 15-17 years-188); family type (monogamy-198; polygamy 84); school type (public-193; private- 89); and birth order (1st position-81; 2nd position-101; 3rd position-67; others -33).

Instruments

The research instruments used for this study were three instruments comprising two screening instruments and one achievement test (which was used to measure participants' achievement in reading). The Learning Disabilities Screening Inventory and The Reading Disabilities Screening Test are two instrument solely used to screen students for learning and reading disabilities respectively. Screening for learning disabilities was done by administering an adapted version of the

Learning Disabilities Screening Inventory by the Learning Disabilities Association of Onatario (r = 0.63).This instrument consists of fifteen questions on a four-point rating scale. Students were asked to rate each item in each of the 15 questions on a 4-point scale from 4 to 1; using the words, Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The (SA) has the highest point of 4 while (SD) has the lowest point of 1.

The Reading Disabilities Screening Test was administered to ascertain those that actually have reading disabilities. This instrument consists of twenty questions on components of reading basically: comprehension, spelling, vocabulary and recognition of sounds. Five questions were taken from each sub-skill of reading indicated above. The pass mark was set as ten correct answers out of twenty. Though a score of 9-6 was regarded as failure only those who scored from 0-5 were included in the study. The split-half co-efficient of the instrument was found to be 0.70. After the screening exercise, students with learning and reading disabilities were further subjected to complete the Students' Test of Reading (STR), an instrument for assessing participants' reading achievement. The STR has fifteen questions. To design this test, two reading comprehension passages were taken from the Metropolitan Achievement Tests (Intermediate Level). This basic survey battery is a standardized test developed by the Psychological Corporation, a subsidiary of Harcourt Brace Jovanovich, Inc. (1978). Respondents were asked to read the passages and answer the questions on them. There were ten questions on each passage that solicited responses based on the content of each passage (testing literal and inferential comprehension as well as spelling, and knowledge of vocabulary). The researcher got 0.72 reliability coefficient using the Kuder Richardson formula 20.

Procedure

The research instruments were administered by five trained research assistants within the same week. At each occasion, all instruments were distributed to the selected respondents and collected immediately after completion. Three hundred (300) questionnaires were distributed but only two hundred and eighty-two (282) were used for the study because eighteen (18) questionnaires were either filled incorrectly or

incompletely and were discarded. The data generated for the study were analyzed using the Multiple Regression Analysis to answer the two research questions raised.

Results

Research Question 1: What is the composite contribution of the demographic characteristics (gender, age, family type, school type and birth order) of students with reading disabilities on their reading achievement?

Table 1: Multiple Regression Table Showing the Composite Contribution of all the Demographic Variables on Reading Achievement

Table 1 shows that there is no joint contribution of the independent variables (gender, age, family type, school type and birth order) on reading achievement of students with reading disabilities; (R

R = .167					
Multiple R = .028					
Multiple R^2 adjustment = .010					
Standard Error Estimate = 2.12994					
Analysis of Variance					
Model	Sum of square	Df	Mean square	F	P
Regression	35.847	5	7.169	1.580	.166[a]
Residual	1252.111	276	4.537		
Total	1287.957	281			

= O.167, p> .05). The table further reveals 10% (Adj. R^2 =0.010) of the variance in reading achievement of students with reading disabilities are accountable for by the linear combination of the independent variables. The ANOVA results from the regression analysis show that there was no significant contribution of the independent variables on the dependent variable ($F_{(5,276)}$ = 1.580, p> .05).

Research Question 2: What is the relative contribution of each

demographic characteristic (gender, age, family type, school type and birth order) of students with reading disabilities on their reading achievement?

Table 2: Summary of Regression Analysis Showing Relative Contribution of Demographic Variables of Participants on their Reading Achievement

Table 2 shows for each demographic variable, the unstandardised regression weight (ß), the standardized error of estimate (SEß), the standardized coefficient, the t-ratio and the level at which the t-ratio is significant. As indicated in the table, only two of the variables were

Variables	Unstandardized Coefficients		Unstandardized Coefficients	t-ratio	P
	B	Std. Error	Beta		
(Constant)	4.025	.891		4.516	.000
Gender	.409	.257	.295	4.592	.011
Age	.092	.272	.020	.337	.736
Family type	.419	.287	.239	3.458	.015
School type	.390	.282	.085	1.383	.168

independently significant. Gender had the highest contribution of 29.5% (ß=.295, t=4.592, $p<0.05$) followed by family type with 23.9% (ß=.239, t= 3.458,$p<0.05$) . This is followed by school type with 8.5% (ß=.085, t= 1.383,$p>0.05$), birth order contributed 6.5% (ß=.065, t= 1.092,$p>0.05$), and age had the lowest contribution of 2.0% (ß=.020, t=.337, $p>0.05$).

Discussion

This result revealed that the joint contribution of demographic characteristics was not significant but when the relative contribution of each demographic characteristic was computed, two of the demographic characteristics (which are gender and family type) were independently significant in predicting reading achievement of students with reading disabilities. Thus, confirming that some correlations appear to exist between gender and reading achievement as earlier indicated by certain researchers. One of such findings is

the one reported by Hedges and Newell (1995) that in science, boys outperformed girls, but in reading and writing girls had the advantage. Also, Coley (2001) found that females scored higher than males in reading and writing across all ethnic and age groups. This gap widened for most groups as the students progressed through school. In a similar manner, the present finding corroborates Lazarus (2013)'s report that females performed better in reading comprehension than their male counterparts. Here the issue was not what gender type outperformed the other, but this finding provides a confirmation that in the reading classroom, there is bound to be gender differences.

The present finding however, contradicts Grissom (2004) previous finding that there was a negative relationship between age and achievement and that this relationship remains constant over time. This is because age was found to have no relative contribution in predicting reading achievement of students with reading disabilities. Moreover, while the current finding corroborate that of McEyoy and Cascio (1989) that found that age was largely unrelated to performance, this finding does not support Waldan's (1986) finding of a moderate relationship between age and performance.

Besides, findings of this study support Okeke's (2009) position that family has the potential to influence a child's academic achievement. This is because it is the first environment of the child. The initial experience that would mould the child's values, aspirations, emotions, interest and attitudes are offered by the parents/family. This finding also adds weight to Essien (2002) assertion that what the child learns at home and how his family motivates him towards education contributes to the child's success in school.

In addition, no relative contribution of school type was found in this study. This finding also contradicts the claim made by Adelabu and Paul (2004) that private schools are regarded as the only avenue to achieving high learning outcomes. In other words, school type is not a potent predictor of reading achievement of a school is private of students with reading disabilities. Going by the report of Vaughn and Wanzek (2014) earlier referred to that findings from intensive intervention studies suggest positive impacts for students with reading disabilities. Therefore, it can be said that, what actually matters may be the kind of intervention (in terms of intensity) provided to students with reading disabilities by the school authorities and not

whether one school is a public school or a private one.

This trend is similar to the present submission on birth order. The finding indicating no relative contribution of birth order on reading achievement is also intriguing as it runs contrary to some previous findings. For instance, Plug and Wijverberg (2003), and Bonesrønning (2003) found that birth order and family size have significant effects on students' achievement. Older siblings were found to achieve higher test scores and to have a higher propensity to attain college, than younger ones, presumably because the oldest siblings and the children in small families receive more education resources at home. But this finding has revealed the contrary.

Implications of Findings

The findings of no statistical joint contribution of selected demographic characteristics on reading achievement of students with reading disabilities and a significant relative contribution of gender and family type has clear implications for practitioners: special educators, general educators, parents and students themselves. This finding serves as an eye opener to the topic in question. The present study has also added insight to the frontiers of knowledge on students with reading disabilities and their reading achievement. This finding provides practitioners in the field with more understanding into the manner and potency of these selected demographics characteristics. This study has revealed that either ways, gender is a potent predictor of reading achievement among students with reading disabilities. Therefore, both boys and girls should be allowed to receive lessons under the same roof and same conditions. There should be no discrimination or preferential treatment for any student as a result of the student's gender.

The finding indicates that the relative contribution of family types (monogamy and polygamy) was also significant. It therefore implies that each parent should endeavour to provide home environment that is conducive for learning, acceptable parenting styles and active participation and involvement in the education of their children and wards particularly in reading domain of academics. No wonder it has been reiterated earlier in this study that the family has the potential to influence a child's academic achievement and in this instance, reading

achievement.

Students with reading disabilities should receive re-orientation seminars where their self- efficacy and self-esteem can be re-trained. None of them should be allowed to continue as passive learners because it is only active players in the classroom that obtain improved scores. Furthermore, potential research might take the form of an intervention study aimed at improving certain aspects of students' reading achievement particularly among students with reading disabilities. Similarly, the relationship between reading achievement and other demographic characteristics of students with reading disabilities should also be explored.

Conclusion

The findings revealed no statistically joint contribution of selected demographic characteristics on reading achievement of students with reading disabilities but a significant relative contribution of gender and family type on reading achievement of students with reading disabilities has been established. Overall, these findings have implications for practitioners, parents and students with reading disabilities themselves.

Recommendations

On the basis of these findings, the following recommendations are made:

Teachers of the reading component of the English Language should pay attention more attention to students with reading disabilities in their classrooms. This is because when teachers make concerted effort to teach these students, reading achievement of these students improves. This is a trend in a positive direction and should be encouraged at all times.

Special educators should readily cater for the needs of students with reading disabilities in their schools by differentiating instruction to suit their unique needs, varying instructional group sizes, devoting more time to them and utilizing appropriate reinforcement strategies.

During reading lessons, students of a particular gender should not be given preferential treatment since it has been established that gender is a significant predictor of reading achievement. All students

should be given a fair treatment and allowed to develop naturally.

Parents from monogamous and polygamous families should endeavour to effectively support the reading achievement of their wards especially those with reading disabilities through effective monitoring and adequate provision of educational materials. They should manage the behavioural characteristics of their children effectively because these characteristics can mar or improve the reading achievement of students with learning and reading disabilities.

Parents should avoid acts of favouritism or preferential treatment among children irrespective of the child's birth order. Whether a child is the 1st born, 2nd born or last born he or she should be treated in the same way as his siblings. This will help students with reading disabilities achieve maximally in their studies particularly in the reading component of the English Language.

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