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2009

Minority Bias in Identification and Assessment of Gifted Students: A Historical Perspective and Prospects for the Future

Abstract:

(Purpose) This literature review discusses the prevalence of bias against minorities in all aspects of selection for gifted and talented services. **(Findings)** Topics addressed in this paper include: (1) progression of the definition of giftedness; (2) minority bias in gifted identification and referrals by school personnel; (3) discriminatory testing practices; (4) use of expanded definitions of giftedness which allow for recognition of giftedness in minority populations; (5) teacher training to minimize identification bias; (6) nonverbal testing as a means to minimize assessment discrimination; and (7) expanding the use of existing tests to analyze multiple areas of giftedness. **(Conclusion)** Given the limited scope of prevalent definitions of gifted, as well as the pervasive bias against minorities even amongst experienced teachers, discrimination within the selection of gifted students is a significant issue that deserves further attention from researchers and more efforts by school systems to implement known methods of reducing bias in the identification and assessment process.

Introduction

It is well documented in the field of gifted education that minorities, namely African Americans, Hispanics and Native Americans, are underrepresented in gifted programs nationwide. Ford, Harris, Tyson, Cynthia, and Trotman (2002) cite a 1936 study by Jenkins as the beginning of documentation of underrepresentation of African Americans in American gifted education. Their paper goes on to list several other discriminatory benchmarks such as the Educational Polices Commission in 1950 recognizing underrepresentation and Brown vs. Board of Education in 1954.

The discrimination of the past, despite educators and policy makers being aware of the problem for almost three-quarters of a century, still persists in our present time. Decades after Brown vs. Board of Education, Harris and Ford (1991) noted that less than 2% of articles in the field of gifted education focused on minorities. Recent research findings regarding underrepresentation in gifted education programs consistently show significant bias against minorities with Ryser (2008) noting that minorities are underrepresented by over 40% and Naglieri and Ford (2003) giving a U.S. Department of Education figure from 1993 of between 50 and 70%. Other researchers specify underrepresentation in other minority groups emerging in American society. For example, Brice and Brice (2004) state that Hispanic students are identified as gifted at roughly half the rate of Caucasians and Asians.

This raises the question as to why some minority groups are identified at a lower rate than others. There are three possible explanations: nature, nurture or some combination of both nature and nurture. If nature is the cause, then members of the underrepresented groups are genetically

less intelligent that Asians and Caucasians. If the cause is nurture, then factors in the development of individuals in these groups puts individuals from these backgrounds at a disadvantage in our society. If we cannot distinguish between the two as a cause, then the problem is with the method of identification rather than the individual or the environment that nurtured them. In terms of nature, many are loathe to assume the hypothesis that some groups are intellectually inferior to others. Furthermore, in studies thus far, it has been impossible to pry the genetic factor away from the environmental. Instead the nature versus nurture debate is not looked upon as a dichotomy between two choices but as a complex answer arising from the contribution of both nature and nurture into an individual's educational background. As educators we are left with two choices for analysis: the environment that produced the gifted students and the methods by which they are identified. Ultimately, only the factors within the educational field are within our control as educators to change. Therefore, that is where efforts must be directed.

Ford, Grantham and Whiting (2008), Ryser (2004), and Ford, Harris, Tyson, Cynthia, Trotman and Trotman (2002) all identify three facets of our identification system needing attention: the definition of giftedness itself, the identification process consisting of teacher recommendations, and, once referred, the tests used to determine giftedness. This is logical sequence of steps for analysis, since the definition is what should (but does not always) drive all other facets of a gifted education program from identification to curriculum. Then, in most cases, teachers act as gatekeepers (McBee, 2006; Lewis, 2001), as they hold the power to identify and refer a student for testing. The teacher’s role is, therefore, critical to the process of identification. Finally, the referred student must be formally evaluated by one or more instruments. If the

problem of underrepresentation is to be fixed, it will be done so by finding improvements in these three areas.

Historical Perspectives

Definitions of Gifted

Historically, giftedness has been narrowly defined as a measure of IQ. However, in 1972 (Marland, 1972) the federal definition became multi-faceted and included the realms of intellectual, creative, academic, leadership and artistic giftedness. Many states either use an older, IQ based definition or follow the 1972 federal one (Ford, Harris, Tyson, Cynthia, Trotman and Trotman 2002). The trend among academics and even the federal government is to continue to expand the definition of giftedness and make it more multi-dimensional. The federal government's more recent definition (1993) is surprisingly enlightened:

> Children and youth with outstanding talent perform or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment. These children and youth exhibit high performance capacity in intellectual, creative, and/or artistic areas, and unusual leadership capacity, or excel in specific academic fields. They require services or activities not ordinarily provided by the schools. Outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor, (p. 19)

This definition maintains the primitive multidimensional language of the 1978 definition but the word potential, along with acknowledgment of all cultural groups, is important language in working to reduce the underrepresentation of disadvantaged groups in gifted education.

There exists, however, a gap between defining giftedness as multidimensional and implementing identification processes based on a broader definition. Though the definition

should dictate what identification procedures are used, even states with more modern, multi-dimensional definitions continue to use one-dimensional tests equivalent to IQ tests (Ford, Grantham & Whiting 2008).

Identification and Referral

Given the historical precedent of discrimination within the educational system, it should come as no surprise that bias on the part of the observer in situations involving identification of gifted minority students has been documented for a substantial length of time. Early work focused on the sheer lack of identifying African American students as gifted in comparison to their Caucasian peers, and the state of minority underrepresentation in gifted classrooms and services. In the seventies, for example, work by Demonbreun (1977) both acknowledged a lack of gifted students identified in minority cultures and strongly advocated the idea that an equal number of gifted students exist in subcultures as do the majority culture. This conjecture of equal existence of gifted students in minority populations challenged the conventional wisdom of the time. Demonbreun (1977), at this point in the development of the field, was unable to offer greater advice for solvency than vague suggestions involving expanding the definition of gifted to fit more students and pairing students with mentors from their culture.

As researchers began to acknowledge identification bias among African Americans, the largest minority within American culture at the time, additional research began into other emerging cultures such as Hispanics or significantly marginalized cultures such as Native Americans. During a survey of educational policy and research regarding identification bias towards Hispanics in the early 1980s, Mick (1982) found that there was a lack of interest and advocacy for Hispanics in the educational field in all aspects of the educational system; the government, specifically, was slow to acknowledge the existence of an issue until a 1979

Massachusetts court trial regarding underrepresentation of Hispanics and African Americans in state school districts in terms of special programs such as gifted classrooms.

With the continuing extension of identification research into additional minority groups, Tonemah (1991), began research into Native American students concluding that a culturally imposed language barrier between the minority and majority cultures results in bias within the identification process. Thus over the course of many years, researchers in the educational field began to draw attention towards a larger range of cultural bias affecting the gifted selection process.

After much work regarding highlighting specific groups that are underrepresented within the gifted classroom due to identification bias, modern researchers are delving into the reasons for the underrepresentation itself. In order to compensate for minority bias, research must identify not just the various groups subject to such discrimination, but the specific agent of discrimination. Most of the modern research has focused on the teacher as the agent of bias and how teacher prejudice or perceptions of other cultures effects their tendency to identify students as gifted. If students and teachers are different in terms of their individual attributes, such that the teacher cannot relate to the student or has misconceptions regarding the students' backgrounds and abilities, then bias can occur.

The research field in the late 1990's found educators acknowledging economic status as a condition exacerbating the existing cultural bias affecting the distribution of gifted services. When dealing with students who are economically disadvantaged and/or cultural minorities, those who have the responsibility to recommend students for gifted assessment procedures should consider that these students "may be behind their peers in life experience" (Abell &

Lennex, 1999, p.3). Finally, researchers began to correlate race and economic status to grant a greater insight into the underrepresentation of minorities.

Statistical research by Abell & Lennex (1999) found that students partaking in school free lunch programs were significantly underrepresented compared to their peers, with teachers lacking specialized training being unable to identify gifted disadvantaged students compared to their more economically affluent peers. Thus, if students are both cultural minorities and economically disadvantaged, which may often be the case, they are subject to discrimination in the identification process on multiple fronts.

More recently, researchers have focused on the intersection of ethnicity and culture on the decision for a teacher to identify students as gifted and the tendency to advocate on their behalf for additional educational services. Currently, researchers are involved in using quantitative and statistical methodology to go beyond merely describing the issue or creating generalities about occurrences, but actually quantizing the degree of bias. In one such research study, teachers were given descriptive stories of students and asked whether or not they believed the students were gifted and would refer the students for testing; the results of this study allowed researchers to quantitatively correlate race with identification (Elhoweris, Mutua, Alsheikh, & Holloway, 2005). The research regarding identification and referrals found no statistically significant correlation between ethnicity and teacher's referrals, however, the authors noted that all the teachers in their study had significant levels of teaching experience which may have altered the results (Elhoweris, Mutua, Alsheikh, & Holloway, 2005).

Other researchers, such as Siegle (2001), would make the case that ethnicity is not actually a significant determinant in whether or not a student is identified as gifted. Instead, Siegle (2001) advocate the removal of a simple definition of race and instead demand that we

should look at whether or not an identifier and the student considered for referral are of the same cultural background. In other words, when analyzing bias of the teacher, culture supersedes race as a contributing factor to bias. This distinction between ethnicity and culture does not often arise due to the difficulty in distinguishing between the two aspects of our social being. Specifically, one could imagine that ethnicity is as easy to measure as checking a box labeled race on a survey form, while culture, regardless of race, will be a much more complex definition of an individual.

Researchers interested in culture over race as the determinant of bias are quick to also point out how students who are economically disadvantaged, regardless of culture, are also less likely to be identified as gifted and referred for services by their teachers. These modern researchers would argue that it is not merely ethnicity that creates a minority status within our educational system but that cultural bias towards minorities operates on a more holistic level, with the discrimination being directed at a cultural level encompassing racial, gender, and socioeconomic identity. An example of this larger scale discrimination would be how teachers can allow bias based on gender to change the way they perceive students and their abilities. Teachers have been found to hold students accountable to certain gender stereotypes within their field and have the tendency to view students as simply acting as they should act for their gender (Siegle, 2001). Siegle (2001) also details how regardless of actual gender, students who have traits that society commonly describes as being attributed to men are more often evaluated as more competent and having higher ability than their peers who may directly conform to gender roles. Gender role bias, much like economic bias, can serve to exacerbate the already existing bias based on minority culture status, leading to students who are discriminated against on multiple aspects of their individuality.

With a long history of research highlighting cultural bias against minority groups of varying ethnicities and culture, as well as contributing factors to discrimination such as gender and socioeconomic class, it would seem that increased awareness of a discriminatory past would lead to a reduction or elimination of bias in the identification process. Unfortunately, such a reduction has not been the prevailing trend, with present day educators continuing a systemic patter of minority underrepresentation.

Recently, Neumeister, Adams, Pierce, Cassady, and Dixon (2007) surveyed experienced teachers in urban schools with high minority populations on their professional perceptions of minority gifted students. Surprisingly, despite their daily contact with minorities and wealth of teaching experience, these teachers failed to take culture into account when considering identifying students as gifted (Neumeister, Adams, Pierce, Cassady, & Dixon, 2007).

Moon and Brighton (2008), also surveyed teachers responsible for identification and referral of gifted students in reference to identification of minority students in order to see the methodology that teachers utilized for selection of gifted students. Teachers were found to rely almost solely on traditional methods, such as a high level of reading ability and comprehension, methods which may be highly insensitive and inconsiderate of other cultures or a variety of intelligences (Moon and Brighton, 2008). Indeed, some cultures may not place a heavy emphasis on reading at an early age or may focus on other domains of intelligence such as artistic or social abilities, which would deem these students as overlooked by their teachers in favor of peers in line with the criteria in which the teacher is perceiving giftedness.

Thus, minority bias within the identification and referral process has been both ongoing and pervasive across a multitude of racial and ethnic groups. While initial research was based on racial surveys, some researchers have extended the discussion from one of mere racial definition

to that of a broader culture. Other researchers have expanded the scope of the research to considering other exacerbating factors that contribute to minority bias such as gender, culture, and socioeconomic status. Regardless of our vantage point or how we consider minorities as a racial definition or a larger identity, research has more recently focused on the teacher as the individual responsible for the underrepresentation of minority students in gifted programs. Indeed, it has been the teacher who has been shown in multiple instances of utilizing a perception of giftedness that was insensitive and often discriminatory to other cultures, resulting in an inherent bias in the personnel driven identification process.

Testing

Even if minority students clear the first hurdle of being recognized as potentially gifted by their teacher there often remains the second hurdle of actually qualifying for gifted services. Usually a traditional intelligence test is used to ultimately assess who qualifies as gifted. Not only do such tests not assess for multiple and different manifestations of giftedness, it returns results where Caucasians score as much as 15% higher than African Americans (Fagan & Holland, 2000).

Perhaps because the results are more concrete, much more research has been conducted on bias in testing than on bias in teacher identification (McBee 2006). The majority of the literature on the subject cites language as the largest problem with IQ tests or their equivalents. This would seem a logical explanation since the groups most often discussed, African Americans, Hispanics, Native Americans often are not native speakers of English or do not speak the standard dialect. Evidence to support this was given by Brice and Brice (2004) citing that other measures of ability correlated much more strongly with math scores than with verbal scores when studying the identification of gifted Hispanic students.

Another test-bias issue that would put ethnically diverse students at a disadvantage is culture. Even if a student's language proficiency is high, if a student is unfamiliar with the cultural content in a test question they will be less likely to answer correctly. Ford, Harris, Tyson, Cynthia, Trotman and Trotman (2002) state that both language demands and culturally inappropriate questions are sources of bias in many tests of intelligence or ability.

The Way Forward

Given the long history of bias in both assessment and identification of minority or culturally diverse gifted students, it is of no surprise that several educators and researchers have demanded change from the status quo. This call for change has been ongoing and manifested itself in a variety of suggestions and specific policy changes over the course of several decades.

Definitions

Problematic definitions may be the easiest of the three facets (definition, teacher identification and testing) to correct. Even if states do not adopt the more complex and difficult to assess definitions of Sternberg and Gardner, the U.S. Department of Education's 1993 definition gives an ample mandate to balance the proportions of children in our gifted education programs. Critically, it shifts the focus from prior achievement to potential. With a suitable definition already available, states need to accomplish two objectives. First, update their definitions to one similar to the 1993 federal definition. Second, align teacher evaluation procedures and assessment tools to this new paradigm.

Teacher Identification

Early research focused on the identification and placement policy as biased and targeted it for change. Tucker (1980), for example, while conceding bias in both the appraisal and assessment of minority and handicapped students for special education classes, including gifted,

chooses to illuminate the great needs and problems of the identification process. Tucker (1980) specifically objects to the teacher as the sole controller the initial identification and referral process, but in terms of solutions he only offers a general outline of which to follow through the identification, assessment and then placement process, not any comprehensive solutions to compensate for bias during each of these steps.

As the research progressed, educators began to offer more specific solutions for compensating for bias in the selection of gifted students. In the 1990's a trend emerged as educators began to suggest that the primary focus of any action to prevent bias should rest on the teacher. For example, it was recommended that preservice teachers be given experience discussing racial issues in order to foster racial awareness and cultural empathy (Benton & Daniel, 1995). While providing an actual plan for action involving large group discussions aimed at fostering a sense of community and to destroy stereotypes, Benton & Daniel (1995) were unable to provide quantitative results on their teaching methodology.

However, later narrative research by Folkes (1999), focusing on the stories and struggles of minorities, specifically immigrants, found that almost all minorities desire the public education system, most notably the educators, to reach out towards their community. Furthermore, Folkes (1999) highly recommends open dialogue along the same lines as Benton & Daniel as a means to sensitize educators of a cultural majority with the often overlooked minorities. Once again, the nature of research into diminishing the cultural bias of the teacher in the identification is qualitative, concerning itself with suggestions rather than with research tested, quantitative successes.

Besides directly addressing bias within personnel, recommendations have been made to improve the identification process itself. Conceding that identification must take into

consideration cultural values, Freeman (2006) demands that educators utilize portfolios and profiles as a way to gather a holistic view of students.

Testing

When discussing remedies for the problem of bias within tests for giftedness many researchers claim the solution is nonverbal testing. Ford (2004), in her work on the underperformance of minority students on traditional intelligence assessments, recommends the use of nonverbal tests, tests which can be taken individually without the use of verbal commands from a teacher. She goes on to specify the Raven's Progressive Matrices and the Naglieri Nonverbal Ability Test as alternative and equitable assessments for minority students compared to traditional, culturally biased verbal intelligence tests such as the Weschler Intelligence Scale for Children. Lewis (2001) concurs with this recommendation also citing the Naglieri Nonverbal Ability Test, Raven's Progressive Matrices, and the Culture Fair Intelligence Tests, as alternate assessments. These alternative tests are defined as nonverbal tests, signifying that they rely on the subject to solve visual problems such as visual analogies, series, and matrices (Lewis, 2001).While these alternative assessments do not completely equalize the percent of minority students compared to Caucasian, cultural majority students identified through assessment as gifted, they greatly increase the number of minorities identify (Lewis, 2001).

McBee (2006) also lists many alternatives to traditional IQ or equivalent tests: dynamic assessment, nonverbal tests, assessing multiple intelligences, adjusting IQ scores for various groups or demographics and performance based assessment. Perhaps dynamic assessment and performance based assessment are not concrete enough for test focused researchers and policy makers while assessing multiple intelligences (one would assume) requires multiple tests.

However, even given these additional recommendations, nonverbal testing receives the most attention within the field.

One of the earliest and most famous of nonverbal tests is Raven's Progressive Matrices from 1947. The test has been updated and improved over the decades but Naglieri found reason to modify it further. In 1985 Naglieri produced another matrix based test, and has refined and improved it since (Naglieri and Ford 2003). Both of these tests employ a grid where the student must identify patterns, often involving geometric figures. There are many nonverbal tests in existence. In addition to Raven's Standard Progressive Matrices and Naglieri's NNAT, Lewis (2001) identifies the Culture Fair Intelligence Tests. Ford, Grantham and Whiting (2008) add the Universal Non-Verbal Intelligence Test (UNIT) to the list. And Lohman (2003) mentions the CogAT. The NNAT and Raven's seem to have attracted the most attention and are most often recommended buy authors endorsing nonverbal tests.

Naglieri and Ford (2003) cite studies which show Raven's Matrices to be plagued with the same problem as IQ tests, namely a large difference between mean scores between ethnic groups. Naglieri and Ford (2003) go on to claim that the NNAT produces very similar means and standard deviations among several groups, such as, Caucasians, Hispanics and African Americans. These results would seem to indicate that the NNAT is an unbiased measure of intelligence. Naglieri and Ford (2003) also mention two other tests that have achieved similar results: that the Cognitive Assessment system and the Kaufman Assessment Battery for Children.

Unfortunately, Naglieri and Ford's 2003 paper was not universally accepted. Lohman (2005) challenges the validity of the results on a number of fronts. He challenges the statistics of the paper in a number of ways, such as how the number of participants in various categories is

not equal to the total number of participants. Also, he notes that the NNAT is too similar to Raven's assessment. There are color differences, supposedly to be more user friendly to color blind students, but this should not significantly affect the differences between the means of various ethnic groups. Both tests rely on matrices, pattern recognition and a high proportion of spatial and geometric problems. Lohman directly questions how the NNAT's results could be so superior to Raven's. Lohman's most interesting challenge to the NNAT is, if one accepts a multiple intelligences view of giftedness, how can a non-verbal test ever identify a student who is verbally gifted?

Before we leave Lohman though, there was one additional noteworthy point made in his paper. As mentioned above, Naglieri and Ford (2003) reports that the Kaufman Assessment Battery for Children achieved uniform means and standard deviations across ethnic and SES groups. Lohman (2005) claims that the reduction in differences between groups was simply because this assessment was a poor measure of intelligence. Specifically, we should note that just because an assessment gives results that are distributed in the manner which we desire does not mean that the assessment has appropriate content validity.

Given current research results, will we have to modify all intelligence testing to a nonverbal format? And what of Lohman's question of how to test linguistic giftedness with a nonverbal test? At least on study indicated that it was possible to test for language acquisition ability in an unbiased way. Fagan and Holland (2000) designed several simple experiments where students from various ethnicities and educational experiences were given opportunities to infer the meanings of words unknown to all groups. This study allows for the possibility that at least some portion of an ability test need not be nonverbal to be culturally and linguistically fair.

So, with Fagan and Holland's (2000) results not yet in a standard, polished form, Raven's matrices found to produce similar inconsistencies as more traditional tests, Naglieri's results questioned and Kaufman's results explained away, then what is the field left with? There are three options remaining: use of multiple assessments, adjusting existing IQ scales, and elimination of tests. Many in the field call for the use multiple assessments for identification (Lewis 2001; Ford, Grantham and Whiting 2008; Ryser 2004; Ford, Harris, Tyson, Cynthia, Trotman and Trotman 2002). A gifted student not identified by one measure may be picked up by another. Caucasian middle class students, along with a large number of minority students can continue to be identified by IQ tests. Students with little or no English proficiency have a chance to demonstrate spatial or geometric intelligence on either Raven's or Naglieri's matrices. One downside to the use of multiple assessments is that it multiplies the cost as well as the opportunity for identification. Many cash starved school districts may baulk at increasing the cost of identification.

Lohman (2005) suggests simply adjusting the IQ to take statistical discrepancies into account. If a Caucasian, middle class student need an IQ of 135 to qualify for services and it has been statically shown that African Americans score 15 points below Caucasians (due to bias within the test) then why not require an IQ of 120 for African Americans? Such a system would have to be far more sophisticated than was just described. Many factors would need to be taken into account for any one student. In addition to being African American, is the student from a low SES group or are they middle class? What level of education did the student's parents achieve? Though controversial since this method creates different requirements for different students, it would no doubt better accommodate testing bias, since each student is viewed as an individual.

The final recommendation comes from Brice and Brice (2004). They go so far as to suggest eliminating tests from the screening process all together and relying solely on the teachers equipped with carefully prepared checklists and rating scales. Completely removing the testing portion of the gifted selection process would eliminate concern over assessment bias, but then we would be forced to rely on processes, such as identification by teachers, which are already known to be bias.

Conclusion

In conclusion, while there are still many obstacles to overcome in order to create a process that is fair towards minorities and does not cause underrepresentation of minorities in gifted programs, there are multiple prospective solutions being implemented to reduce minority bias. At the same time, given the long history of work on equalizing both assessment and identification of gifted students, underrepresentation will not be solved soon, but only after a great length of time involving continuous testing, self-reflection, and improvement in both ourselves and our processes. Indeed, as shown through a historical perspective on the issue, bias is greatly entrenched in the thoughts and perceptions of educators, making this issue a particularly difficult one to deal with when we rely on educational professions to both identify and assess giftedness in our children.

Even if we were to ignore the historical perspective of pervasive bias, modern researchers have described the same minority bias as their research predecessors' decades prior. It cannot be expected that bias will be reduced as a function of time, and even if it was, too many minority students would have their potentials underserved in our educational climate by the time we wait for our system to change. In the present, however, it is clear that the use of alternative nonverbal tests, fostering cultural sensitivity in the teachers responsible for identification, and creating a

more detailed and involved identification process are keys to equalizing the entire process of identification and assessment for all gifted students. Only through aggressive, research based action focusing on all aspects of the process, can we significantly reduce bias towards minorities.

Related Topics to be Explored

There are several related issues beyond the scope of this review of literature. For example, why do Asians not suffer from the same underrepresentation as other minority groups, notably African Americans and Hispanics? Furthermore, in regard to the overall process, there is the issue of retention. Once minority gifted students are identified and enrolled into programs, new challenges presents themselves: retaining minority gifted students and designing culturally appropriate gifted curriculum. Further research also needs to focus on separating socioeconomic status from minority status in order to find specific solutions for the bias against all degrees of race or financial worth. Finally, even if we reduce bias in the enrollment process, we must build programs that also address the needs of the minority student. If minority students are overlooked because they have been underachieving compared to their gifted peers, how does a gifted program deal with student with high potential but low levels of prior achievement?

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