

**Teacher ethnicity, student ethnicity, and student outcomes. A review of the empirical literature**

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## **Abstract**

A review of the empirical literature was conducted to establish the relation between teacher and student ethnicity, and cognitive and non-cognitive student outcomes. It was hypothesized that ethnic teacher-student congruence results in more favorable outcomes for especially minority students. A total of 24 quantitative studies focusing on primary and secondary education in the United States were reviewed. The results show that there is as yet little unambiguous empirical evidence that a stronger degree of ethnic match, be it in the form of a one-to-one coupling of a teacher to students with the same ethnic background, or a larger share of ethnic minority teachers at an ethnically mixed school, leads to predominantly positive results. Insofar positive effects were found, they apply to a greater extent to subjective teacher evaluations than to objective achievement outcome measures.

**Keywords:** teacher-student congruence; ethnic matching; cognitive and non-cognitive effects; literature review

## **Introduction**

### ***Underrepresentation of minority teachers***

In this study the relationship between the ethnic minority background of teachers and their students and its effects on achievement stands central. The study was conducted in the Netherlands where the number of minority teachers is extremely low. In 2009 (more recent data are not available) no more than 3.7% of the primary education staff had a non-Western background, in secondary education this was 4.7%. Many of them were not teachers, however, nor were they a member of the management team, but had a supportive function. Moreover, despite several policy intentions and measures, the share of minority staff even has decreased in recent years. The main reasons for this are the fact that only few minority

students start in teacher training programs and in addition many of the students who do enroll drop out prematurely (Van den Berg, Van Dijk, and Grootsholte 2011). In contrast, the percentage minority teachers deviates strongly from the percentage minority students. In 2009, 11% of the students in primary education were ethnic minority, and 15% of the students in secondary education (CBS 2013). Therefore, minority teachers are strongly underrepresented in Dutch education.

### ***The importance of minority teachers***

Why is a good representation of minority teachers important? In a general sense, many point to a possible positive effect of the minority background of teachers on achievement of their minority students. In connection to this, several presumptions are mentioned (e.g., Bone and Slate 2011; Clewell and Villegas 1998; Irvine and Fenwick 2009; Maylor 2009; Naman 2009; National Collaborative on Diversity in the Teaching Force 2004; Villegas and Irvine 2010):

- The minority teacher functions as a role model, not only for minority students but also for majority students.
- Minority teachers improve contacts between the school and minority parents and students.
- Parents and students recognize themselves better in school and as a result develop more affinity with education and which results in more parental participation.
- Because of their familiarity with the minority culture minority teachers have an important monitoring function; they recognize earlier when minority students are having problems and when intervention is necessary.
- Minority teachers also function as a source of information for their majority colleagues.
- Because of their presence and specific knowledge they contribute to preparing students for living in a multicultural society.
- Minority teachers are important for realizing a proportional ethnic-cultural representation in society.
- They contribute to solving (future) teacher shortages.



### ***Research question***

It is assumed that when there are more minority teachers there will be more ‘racial symmetry’ (Takei and Shouse 2008), ‘ethnic congruence’ (Pigott and Cowen 2000), ‘ethnic match’ (Bates and Glick 2013), ‘racial consonance’ or ‘racial similarity’ (Oates (2003) with minority students and as a result minority student achievement will increase. In several countries initiatives have been undertaken over the past decades to attract more minority teachers (Bone and Slate 2011). It is remarkable, however, that the arguments presented as to why more minority teachers are necessary have hardly been validated by empirical research (Villegas and Irvine 2010). The present study therefore aims to systematically review the empirical evidence and answer the following question:

What is the effect of ethnic minority teachers on their ethnic minority students’ achievement?

### **Method**

To answer the research question an international literature review was conducted. Search engines such as Scopus, Web of Science, Picarta, Psychinfo, SciVerse, ERIC, Online Contents and Scholar were engaged. In addition, several international experts were consulted. In the search for relevant studies, the following selection criteria were employed:

- a focus on the Netherlands, Belgium, Germany, the United Kingdom, and the United States;
- not older than twenty years;
- primary and secondary education;
- quantitative empirical research, sufficiently large sample sizes, a (quasi-)experimental design with control variables;
- ethnicity of the teacher and/or students as the central explanatory variables;
- cognitive and/or non-cognitive effects on students as the outcome variables.

Employing these criteria ultimately resulted in 24 relevant publications. Without exception, all studies pertained to the United States; no studies were found conducted in the Netherlands, Belgium, Germany, or the United Kingdom. The majority of the studies focused on the primary sector. What follows is a description of the results of these studies,

distinguishing between objective and subjective effect measures (e.g., test scores and teacher evaluations, respectively), and further differentiating between individual level effects, that is, matching teacher with student, and effects at the class, school or district level, that is, compositional effects.

Research into effects of school composition or diversity, for instance in terms of student ethnicity, is a complex endeavor and various methodological reservations are warranted (for an overview see Driessen 2007a). However, when effects of teachers on students are central, the situation even gets more complicated. The question then is how long such effects continue to influence student outcomes. Is there only an effect during the time the teacher and student are together in the same class or grade, or also in later grades? Driessen (2007b), in a comparable study into effects of male teachers on student outcomes, discerned various time or period effects. First, the cumulative effect: the total number of male teachers which a student in primary school had from grade 1 through grade 8. Second, the phase effect: the specific period in which the student had a male teacher, for instance in the higher grades only. Third, the moment effect: whether the student had a male teacher in the specific grade being studied or not. In primary education, when there often is only one teacher per grade, but a different teacher in every other grade, the situation already is rather complicated, but in secondary education with mostly different teachers for each subject the picture even is much more complex. As to the outcome measures, there probably is a difference between (subjective) teacher evaluations and (objective) achievement tests. Evaluations to a large extent pertain to here and now experiences and are influenced by specific personal teacher-student relations, while test achievement (i.e. cognitive skills) are the result of a process, that is, of experiences with several teachers in earlier grades. Therefore, it is expected that cognitive effects will continue to occur for longer periods of time, while non-cognitive effects will tend to be limited to a specific teacher in a specific class or grade.

## **Findings**

### *Objective effect measures*

#### *Ethnic matching*

The study by Clotfelter, Ladd, and Vidgor (2006) focused on teacher-student matching, more specifically in terms of teacher qualifications. The leading question was whether highly qualified teachers tend to teach high-achieving students. A number of control variables were engaged, such as teacher experience, competencies, gender, and race/ethnicity (White, Black, Hispanic). The students' achievement level was measured by math and reading test scores. Data on 3,223 teachers and 60,791 10-year-old students were analyzed. The research results confirmed that, indeed, high-achieving students tend to be taught by better qualified teachers. Black and other non-White teachers taught students with significantly lower test scores, not only across schools but often also within schools. This does not mean, however, that there is a causal relationship. The negative correlation largely disappeared when controlling for student level demographics like gender, race and parental education. After additionally controlling for prior student achievement, the negative effect of Black or Hispanic teacher disappeared completely.

Dee (2004) analyzed data from the STAR class-size experiment. The main question was whether own-race matching of students and teachers influences math and reading achievement. Around 11,600 5-8-year-old students in 79 schools were involved. The analyses indicated that assignment to an own-race teacher significantly increased both math and reading achievement. Moreover, these effects were nearly the same for Black and White students and hardly changed when controlling for student, class and school characteristics. In addition, the effects appeared to be cumulative for the four years studied.

The longitudinal data Easton-Brooks, Lewis, and Zhang (2010) analyzed came from 1,207 African American 5-10-year-olds in the ECLS-K-5 cohort. The question was whether these students achieved better when taught by an African American teacher. In each of the six grades a calibrated (and therefore across the grades comparable) reading test was administered. Ethnic matching was operationalized as: African American students were

taught by at least one African American teacher in the six grades versus they were taught by White teachers only. The analyses showed that the reading scores of the African American students at the end of kindergarten and the growth between kindergarten and fifth grade were significantly higher when they had been taught by at least one African American teacher. However, there was no such effect in schools with a low or a high number of minority students.

The study by Eddy and Easton-Brooks (2011) is comparable to that by Easton-Brooks, Lewis, and Zhang (2010). The difference is that in the former study mathematics achievement is analyzed while in the latter it is reading achievement. This is an interesting difference as it is a well-known fact that mathematics are determined more by teacher and school characteristics than does reading. Therefore an ethnic matching effect is more plausible. A total of 1,207 African American 5-10-year-old students in the ECLS-K-5 cohort participated in the study. A mathematics test was administered in four grades. There was an ethnic match when an African American student was exposed to at least one African American teacher in the six grades studied. The results of the analyses of the mathematics achievement were comparable to those of the reading achievement. African American students performed better with a same race teacher. But again, after controlling for gender, school poverty, and percentage of minorities at school, this effect disappeared.

Ehrenberg, Goldhaber, and Brewer (1995) examined gender, race and ethnicity matching effects. Their study included NELS88 cohort data on 2,500 13-15-year-old students. Gain scores were analyzed for the subjects reading, mathematics, history, and science. In addition to these objective achievement measures subjective teacher evaluations of the students' behavior and capacities were analyzed. A distinction was made between White, Black, Hispanic and other race. Regarding the objective achievement measures it was concluded that there is little support for the notion that teachers' race, ethnicity, and gender per se influence how much students learn. On the other hand, the analyses also showed that the combination of race, ethnicity and gender sometimes influences the subjective teacher evaluations of students. Moreover, the results suggest a more positive evaluation in case there is an ethnic/racial match.

The sample analyzed by Fryer and Levitt (2004) included data on 12,000 kindergarten students in the ECLS-K cohort. Both objective measures, viz. reading and math test scores administered at ages 5 and 6, and subjective measures, viz. the teachers' reading and math assessments were examined. The results indicated that there were large differences between White and Black students at the start of kindergarten. These disappeared, however, when controlled for a number of background characteristics. In the following two years the Black students once more lost substantial ground relative to other races. According to the researchers differences in quality of schools with a large share of Blacks may be an important part of the explanation. Teacher quality probably is the most important determinant of school quality. It was hypothesized that either White teachers have lower expectations of Black students, or that they discriminate against them. If this were the case, it was expected that Black students with White teachers should lose more ground than Black students with Black teachers. The analyses, however, showed the opposite results: Black students with at least one Black teacher fell behind in reading and math test results more than those with White teachers. The analysis of the subjective teacher assessments yielded similar findings: Black students with Black teachers did not receive more positive ratings as compared to their White classmates.

Howsen and Trawick (2007) extended Dee's (2004) study by including student innate ability and teacher gender. Furthermore, both small and large schools that were missing in Dee's sample were included. They employed math and reading test achievement on 25,871 8-year-old students at 120 schools. The central question was whether own-race matching influenced achievement. The analyses indicated that after gender and ability were taken into consideration no significant effect of matching students and teachers of similar race remained. Therefore, Dee's conclusion was not supported.

#### *Ethnic composition*

Brown-Jeffy (2008) analyzed HSES cohort study data on 3,392 students (15-17-year-olds) in 177 schools. The study focused on explaining differences in mathematics achievement by the school's racial composition. Black, White, Asian and Hispanic students were discerned. Furthermore, the percentage of Black and the percentage of Hispanic teachers were included

in the multilevel analyses. The results revealed that after controlling for a number of student and school characteristics opposing effects of teacher racial composition appeared. For schools with White and Black students and schools with White and Asian students there was a positive, though non-significant effect. For schools with White and Hispanic students a significant negative effect occurred. This means that, contrary to the researcher's expectation, at schools with a larger share of Black and Hispanic teachers Hispanic students achieve lower.

Meier (1993) focused on 12 school districts that had at least 8 percent Latino enrollment. Data were available for eleven years for each of these districts. The main question was whether the share of Latino principals and teachers was associated with a series of cognitive and non-cognitive student characteristics. Three dimensions were discerned: educational grouping; discipline, and student performance. The analyses revealed a significant positive correlation with share of Latino teachers. The correlations with share of Latino principals were weaker, however, and sometimes not in the expected direction. After social class and other control variables were included the associations with share of Latino teachers remained. This was also the case for the share of Latino principals, though the effects mostly were not in the expected direction. This was explained by the researchers from the idea that a 'critical mass' is required before affecting Latino students. Because there were only few Latino principals this resulted in statistical problems.

The unit of analyses in the study by Meier, Wrinkle, and Polinard (1999) was the school district. The sample included 350 school districts with at least 1,000 students of whom between 10 and 90 percent was White. Pooled data for 6 years were available. A distinction was made between minority (i.e. Black and Latino) and majority students and teachers. The main question was whether there is a relationship between the share of 8-15-year-old minority students who pass a standardized test and the share of minority teachers. It was found that a larger share of minority teachers has a positive effect on the pass rate of both minority and majority students, though this effect was not significant for the latter category. It was concluded that both groups benefit from higher levels of minority representation.

Pitts (2007) used pooled data from all public school districts in the state of Texas collected between 1995 and 2002. Three measures were analyzed: academic skills test pass

rate; dropout rate; and high-end SAT score (i.e. college-bound). The effect of the ratio of the share of teachers and principals and the share of students in terms of race/ethnicity (White, Black, Latino) was established. It became evident that the share of principals is not relevant, probably because students interact only sporadically with principals. A significant effect did occur of share of same-race teachers on two effect measures: fewer students dropped out and more students passed for their graduation examination. However, it appeared that these effects were negative for White students and positive for Black and Latino students.

### *Subjective effect measures*

#### *Ethnic matching*

The study by Bates and Glick (2013) aimed to identify whether students receive different evaluations from their teachers depending on their racial/ethnic match. Data from 16,701 5-10-year-olds in the ECLS-K cohort study were analyzed. A distinction was made between Non-Hispanic White, Hispanic White, Black, and Asian teachers and students. The students were evaluated with regard to their externalizing behavior (e.g., arguing in class and disrupting instruction). The results indicated that in general the students' behavior was rated consistent with the societal stereotypes associated with the racial/ethnic groups. Black students received worse assessments when their teacher was non-Hispanic White than when their teacher was Black. These differences persisted when controlled for classroom and school characteristics, including teacher education and gender. It was concluded that ethnic teacher-student congruence can help to counterbalance stereotypes.

Cullinan and Kaufmann (2005) investigated how teachers' perceptions of students' emotional disturbance (emotional and behavior problems) might vary by race. The analyses concentrated on Black and White teachers' ratings of 248 Black and 524 White 6-18-year-olds. The results showed that according to their teachers Black students more often have emotional problems (especially Unhappiness or Depression and Physical Symptoms or Fears), but no correlation could be established with teachers' race; thus, no racial bias in teacher perceptions was found.

Dee (2005) examined whether assignment to a demographically similar teacher (race/ethnicity and gender) influences a teacher's subjective assessments of student behavior and performance. Data came from the large-scale representative NELS88 study which included 21,324 13-year-old students at 1,052 schools. Three types of behavior were analyzed, namely disruptive behavior, consistently inattentive, and rarely completed homework. The analyses revealed that when students were evaluated by different race/ethnicity teachers (both White and Black and Hispanic) they received more negative assessments. However, this strong effect appeared to be concentrated among students of low socioeconomic status and in the South of the US.

The study by Downey and Pribesh (2004) estimated racial matching effects of teachers' evaluations of students' classroom misbehavior. Data on 12,989 kindergartners in the ECLS-K cohort and 8,881 eight grades from the NELS88 cohort were analyzed. The results indicated that Black students were consistently rated more negative than White students. However, when teachers' race was taken into account this pattern did not persist. There even were indications that when students were matched with same-race teachers Black students' classroom behavior was evaluated more favorably than was White students'. This pattern lends more support for the hypothesis that the matching effect is the result of White teachers' bias than of that of an oppositional culture of Black students. Of importance is that the strain between Black students and White teachers already is evident when the children begin kindergarten.

Jackson et al. (2006) focused on the effects of race on students' peer nominations. Using sociometric nominations from 1,268 9-11-year-olds across 57 classes they established whether teacher's race played a role in these ratings. Various dimensions were discerned, namely 'Social preference', 'Like most', 'Like least', 'Fights' and 'Leader'. The multilevel analyses showed that classroom race composition affected ratings of Black students more than were ratings of White students. The more Black children in a class, the more social interactions, and the more positive peer nominations. The impact of teachers' race was not strong. In fact, a significant effect only occurred for one dimension, viz. Leader: Black students with Black teachers were nominated more than Black students with White teachers.

McGrady and Reynolds (2013) tested the hypothesis that a racial mismatch influences teachers' evaluations of students' classroom behavior, scholastic ability for English, and for math. The sample included around 9,500 15-year-olds from the ELS study. Regarding race/ethnicity White, Black, Hispanic and Asian students, and White and non-White teachers were discerned. The analyses revealed a complex pattern of relations. White teachers rated Black and Hispanic students' behavior and ability somewhat more negatively than White students' behavior and ability; however they evaluated Asian students more positively. Non-White teachers' ratings of White students did not typically differ from those by White teachers. The main question was, however, whether non-White students were better off when taught by non-White teachers. Hispanic and Black students never received worse ratings from non-White and same-race teachers, and only in some instances they were rated more positively. There was some evidence to suggest that Asian students are worse off when taught by non-White teachers.

Oates (2003) explored the question whether teacher-student racial congruence conditions the impact of teacher perceptions on student performance, e.g. via self-fulfilling prophecies or perceptual biases. Data included information on 8,222 15-17-year-old African-American and White students participating in the NELS cohort study. Both objective and subjective measures were examined, namely the combined scores of reading, math, history and science tests, and the teachers' perceptions of students' diligence. The LISREL analyses resulted in a negative effect of racial teacher-student incongruence on teacher's perceptions and – somewhat lesser so – students' test performance, but this effect seemed primarily consequential to African-American students.

Ouazad (2007) tested the effect of being assessed by a same race or same gender teacher, conditionally on test scores, student effects and teacher effects. The sample included 67,855 5-10-year old students in the ECLS-K cohort study. After correction for a number of confounding student and teacher characteristics (e.g. test achievement) teachers rated same-race students more positively on English and mathematics. This effect, however, was mainly due to the better grades given to Black students by Black teachers and to Hispanic students by Hispanic teachers. Student behavior was not affected by same-race matching. There were no

indications that the same-teacher matching effect influenced test performance via teacher assessments.

The study by Pigott and Cowen (2000) established the effects of teacher race, student race, and teacher-student racial congruence on teacher ratings of the school adjustment of 445 5-10-year-old students in 24 racially mixed (African American and White) schools. It was expected that a racial match enhances understanding of children and leads to greater acceptance of their behavior. A negative effect could be expected as well, however: when African American teachers view themselves more as belonging to the White middle-class they may assess African American students accordingly. Three dimensions were evaluated: teacher assessments of students' school adjustment; use of negative stereotypes by teachers; and teachers' expectations of students' academic progress. The analyses showed that though African American students were judged to have more adjustment problems and fewer competencies than White students the ratings of African American and White teachers did not differ. African American teachers were more positive in general: they evaluated all students as having more competencies and fewer problems. No significant teacher race x student race interactions could be established.

Saft and Pianta (2001) assessed the extent to which teachers' perceptions of their relationships with students varied depending on the ethnic match between teacher and student. Their sample included 197 preschool and kindergarten teachers and 840 students. Four ethnic groups were discerned: Caucasian, African American, Hispanic, and other ethnicity. Though the results showed a significant positive effect of ethnic matching, especially on the conflict and dependency subscales, mean differences between groups were only small in absolute terms.

In Shepherd's (2011) study 57 Black, White, Asian, and Hispanic teachers were asked to evaluate responses spoken by 40 7-9-year-old Black, White, and Hispanic students. Materials consisted of three open-ended social studies questions on Thanksgiving; the American flag; and a police officers' job. The results of the experiment suggested that there are still inequalities in how some teachers evaluate different student's work. Non-White students were evaluated significantly less favorably than White students. Moreover, non-

White teachers assessed Black and Hispanic students even less favorably than White and Asian teachers.

For their study Takei and Shouse (2008) used data from the NELS88 cohort study. The sample included 6,355 13-year-old Black and White students at 410 schools. Outcome measures were teachers' assessments of students' classroom behavior and academic performance: work below ability; complete homework; and inattentive in class. The multilevel analyses examined how teacher ratings varied across four different student-teacher pair categories: White teacher – White student; White teacher – Black student; Black teacher – Black student; Black teacher – White student. The analyses included various controls for student and school characteristics. No consistent results could be established. The ratings seemed to be influenced by both the academic subject the teachers taught and demographic characteristics of the school. These findings were not in line with those of earlier studies using the same data and according to the researchers probably were a result of insufficiently controlling for demographic characteristics and differences in teacher subjects.

#### *Ethnic composition*

Kloppenstein (2005) estimated the impact of same-race teachers on students' rigorous math taking. In addition to teachers' race (here: the share of Black teachers at a school) teachers' gender was examined as well. A total of around 20,000 Black and 81,000 White 14-16-year-olds participated in the study. The analyses revealed that when the percentage of Black math teachers increased more Black students opted for rigorous math taking. However, this positive effect occurred only for opposite-sex student/teacher matches, for instance when a male Black student was taught by a female Black teacher.

#### *Summary*

Table 1 summarizes the results of the 24 studies reviewed while discerning objective and subjective effect measures. Presented are negative effects (-), no effects (0), positive effects (+), and strongly differentiated effects ( $\approx$ ), that is effects that strongly vary by group and/or effect measure. Below the table the results of a 'vote count' are presented, a way to quantify the results of a series of studies by simply adding them up.

[Insert Table 1 about here]

In 15 studies objective effect measures were analyzed; 3 (20%) showed a negative effect, 7 (47%) no effect, and 5 (33%) a positive effect. In 17 studies subjective effect measures were examined: 2 (12%) revealed a negative effect, 3 (18%) no effect, 10 (59%) a positive effect, and 2 (12%) a strongly differentiated effect. Keeping in mind that 'vote counting' is a rather crude technique, it can be concluded that regarding objective effect measures (mostly test results) the share of studies with no effects dominates, while one third of the studies shows a positive effect. Regarding the subjective effect measures (mostly teacher evaluations of student behavior) the share of positive effects dominates; this pertains to more than half of the studies. Taking all 24 studies together, it was found that in nearly half of the studies (47%) there is a positive effect; in more than half of the studies (53%) there is an ambiguous effect, no effect, or a negative effect. There appears not to be any correlation with educational sector, that is, there are no differences between primary and secondary education.

## **Conclusions**

The conclusion seems justified that there is as yet little unambiguous empirical evidence that a stronger degree of ethnic match, be it in the form of a one-to-one coupling of teachers to students with the same ethnic background, or a larger share of minority teachers at an ethnically mixed school, leads to predominantly positive results. Insofar favorable effects were found, they apply to a greater extent to subjective teacher evaluations than to objective achievement outcome measures.

That more positive effects are reported with respect to subjective effect measures in itself is not so surprising. This can be explained from a positive bias of the teachers towards students from their own ethnic group, and perhaps from a negative bias against those of another group (Cullinan and Kaufmann 2005; Downey and Pribesh 2004; Oates 2003). After all, the teachers have a direct influence on these evaluations. In the case of test achievement the actual abilities of the students will be decisive. To what extent this empirical reasoning is true and to what extent the subjective evaluations affect the objective outcome measures, or

the other way round, cannot be said on the basis of the present research findings. In this context, however, the study of Ouazad (2007), who established that there are no indirect effects of matching via teacher evaluations on student performance can be mentioned. In order to be able to draw better substantiated conclusions much more research in this area is needed.

Further, it should not be forgotten that all the research which is reported here relates to the US. Taking into account the large differences between countries, for example in terms of education system, differences between schools, relationships between ethnic groups, and the quality of teachers, it is unclear what the precise value of the American findings is for other countries.

### **Notes on contributors**

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### **References<sup>1</sup>**

- \*Bates, L., and J. Glick. 2013. "Does it Matter if Teachers and Schools Match the Student? Racial and Ethnic Disparities in Problem Behaviors." *Social Science Research* 42: 1180-1190.
- Bone, J. 2011. "*Teacher Ethnicity and Student Ethnicity in Texas Public Schools: A Multi-Year Study.*" ProQuest, UMI Dissertation Publishing.
- Bone, J., and J. Slate. 2011. "Student Ethnicity, Teacher Ethnicity, and Student Achievement: On the Need for a More Diverse Teacher Workforce." *The Journal of Multiculturalism in Education* 7 (1): 1-22.
- Boser, U. 2014. "*Teacher Diversity Revisited. A New State-by-State Analysis.*" Washington, DC: Center for American Progress.

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1 References marked with an \* were included in the final analysis.

- \*Brown-Jeffy, S. 2008. "School Effects: Examining the Race Gap in Mathematics Achievement." *Journal of African American Studies* 13 (4): 388-405.
- CBS 2013. "Basisonderwijs; Leerlingen in het Basis- en Speciaal Basisonderwijs." Accessed November 12. <http://statline.cbs.nl/statweb/>.
- Clewell, B., and A. Villegas. 1998. "Diversifying the Teaching Force to Improve Urban Schools: Meeting the Challenge." *Education and Urban Society* 31 (1): 3-17.
- \*Clotfelter, C., H. Ladd, and J. Vidgor. 2006. "Teacher-Student Matching and the Assessment of Teacher Effectiveness." *Journal of Human Resources* 41 (4): 778-820.
- \*Cullinan, D., and J. Kaufmann. 2005. "Do Race of Student and Race of Teacher Influence Ratings of Emotional and Behavioral Problem Characteristics of Students with Emotional Disturbance?" *Behavioral Disorders* 30 (4): 393-402.
- \*Dee, T. 2004. "Teachers, Race, and Student Achievement in a Randomized Experiment." *The Review of Economics and Statistics* 86 (1): 195-210.
- \*Dee, T. 2005. A teacher like me: Does race, ethnicity, or gender matter? *The American Economic Review* 95 (2) 158-165.
- \*Downey, D., and S. Pribesh. 2004. "When Race Matters: Teacher Evaluations of Students' Classroom Behavior." *Sociology of Education* 77 (4): 267-282.
- Driessen, G. 2007a. *Peer Group Effecten op Onderwijsprestaties. Een Internationaal Review van Effecten, Verklaringen en Theoretische en Methodologische Aspecten*. Nijmegen: ITS.
- Driessen, G. 2007b. "The Feminization of Primary Education: Effects of Teachers' Sex on Pupil Achievement, Attitudes and Behaviour." *International Review of Education* 53 (2): 183-203.
- Driessen, G. 2014. *Allochtone Leraren en Prestaties van Allochtone Leerlingen*. Utrecht: FORUM.
- \*Easton-Brooks, D., C. Lewis, C., and Y. Zhang. 2010. "Ethnic-Matching: The Influence of African American Teachers on the Reading Scores of African American Students." *The National Journal of Urban Education and Practice* 3 (1): 230-243.

- \*Eddy, C., and D. Easton-Brooks. 2011. "Ethnic Matching, School Placement, and Mathematics Achievement of African American Students from Kindergarten through Fifth Grade." *Urban Education* 46 (6): 1280-1299.
- \*Ehrenberg, R., D. Goldhaber, and D. Brewer. 1995. "Do Teacher's Race, Gender, and Ethnicity Matter? Evidence from the National Educational Longitudinal Study of 1988." *Industrial and Labor Relations Review* 48 (3): 547-561.
- \*Fryer, R., and S. Levitt. 2004. "Understanding the Black-White Test Score Gap in the First Two Years of School." *Review of Economics and Statistics* 86 (2): 447-464.
- \*Howsen, R., and M. Trawick. 2007. "Teachers, Race and Student Achievement Revisited." *Applied Economics Letters* 14: 1023-1027.
- Irvine, J., and L. Fenwick. 2009. *Teachers and Teaching for the New Millennium: The Role of HBCU's*. Washington, DC: Department of Education.
- \*Jackson, M., J. Barth, N. Powell, and J. Lochman. 2006. "Classroom Contextual Effects of Race on Children's Peer Nominations." *Child Development* 77 (5): 1325-1337.
- \*Kloppenstein, K. 2005. "Beyond Test Scores: The Impact of Black Teacher Role Models on Rigorous Math Taking." *Contemporary Economic Policy* 23 (3): 416-428.
- Maylor, U. 2009. "'They Do Not Relate to Black People Like Us': Black Teachers as Role Models for Black Pupils." *Journal of Education Policy* 24 (1): 1-21.
- \*McGrady, P., and J. Reynolds. 2013. "Racial Mismatch in the Classroom: Beyond Black-White Differences." *Sociology of Education* 86 (1): 3-17.
- \*Meier, K. 1993. "Latinos and Representative Bureaucracy. Testing the Thompson and Henderson Hypotheses." *Journal of Public Administration Research and Theory: J/PART*. 3 (4): 393-414.
- \*Meier, K., R. Wrinkle, and J. Polinard. 1999. "Representative Bureaucracy and Distributional Equity: Addressing the Hard Question." *The Journal of Politics* 61 (4): 1025-1039.
- Naman, W. 2009. "Who Should Teach Black Students? Research on the Role of White and Black Teachers in American Schools." *Ethnicity and Race in a Changing World: A Review Journal* 1 (2): 26-39.

- National Collaborative on Diversity in the Teaching Force 2004. *Assessment of Diversity in America's Teaching Force. A Call to Action*. Washington, DC: NEA.
- \*Oates, G. 2003. "Teacher-Student Racial Congruence, Teacher Perceptions, and Test Performance." *Social Science Quarterly* 84 (3): 508-525.
- \*Ouazad, A. 2007. *Assessed by a Teacher Like Me: Race, Gender and Subjective Evaluations*. London: London School of Economics.
- \*Pigott, R., and E. Cowen. 2000. "Teacher Race, Child Race, Racial Congruence, and Teacher Ratings of Children's School Adjustment." *Journal of School Psychology* 38 (2): 177-196.
- \*Pitts, D. 2007. "Representative Bureaucracy, Ethnicity, and Public Schools: Examining the Link between Representation and Performance." *Administration and Society* 39 (4): 497-526.
- \*Saft, E., and R. Pianta. 2001. "Teachers' Perceptions of Their Relationships with Students: Effects of Child Age, Gender, and Ethnicity of Teachers and Children." *School Psychology Quarterly* 16 (2): 125-141.
- \*Shepherd, M. 2011. "Effects of Ethnicity and Gender on Teachers' Evaluation of Students' Spoken Responses." *Urban Education* 46 (5): 1011-1028.
- \*Takei, Y., and R. Shouse. 2008. "Ratings in Black and White: Does Racial Symmetry or Asymmetry Influence Teacher Assessment of a Pupil's Work Habits?" *Social Psychology of Education* 11 (4): 367-387.
- Van den Berg, D., M. Van Dijk, and M. Grootsholte. 2011. *Diversiteitsmonitor 2011*. Den Haag: SBO.
- Villegas, A., and J. Irvine. 2010. "Diversifying the Teaching Force: An Examination of Major Arguments." *Urban Review* 42 (3): 175-192.

Table 1 – Overview of effects as reported in the selected studies

Authors	Sector	Objective effect measure	Subjective effect measure
Bates and Glick (2013)	pe		+
Brown-Jeffy (2009)	se	-	
Clotfelter et al. (2005)	pe	0	
Cullinan and Kauffman (2005)	pe, se		0
Dee (2004)	pe	+	
Dee (2005)	se		+
Downey and Pribesh (2004)	pe, se		+
Easton-Brooks et al. (2009)	pe	0	
Eddy and Easton-Brooks (2011)	pe	0	
Ehrenberg et al. (1995)	se	0	+
Fryer and Levitt (2004)	pe	-	0
Howsen and Trawick (2007)	pe	0	
Jackson et al. (2006)	pe		+
Klopfenstein (2005)	se		+
McGrady and Reynolds (2013)	se		≈
Meier (1993)	pe, se	t + ; m -	t + ; m -
Meier et al. (1999)	pe, se	+	
Oates (2003)	se	+	+
Ouazad (2007)	pe	0	+
Pigott and Cowen (2000)	pe		0
Pitts (2007)	pe, se	t + ; m 0	
Saft and Pianta (2001)	ps, pe		+
Shepherd (2011)	pe		-
Takei and Shouse (2008)	se		≈
Total		3 - / 7 0 / 5 +	2 - / 3 0 / 10 + / 2 ≈

ps = preschool; pe = primary education; se = secondary education.

t = teachers; m = management.

- = negative effect; 0 = no effect; + = positive effect; ≈ = strongly differentiated effect.