Ethnicity and teacher expectations in New Zealand

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Abstract

The current study investigated teacher expectations in reading and in math of four ethnic groups in New Zealand controlling for achievement. Exploring teacher expectations in relation to ethnic minority groups is important since they often begin schooling disadvantaged. Research has shown teachers often have lower expectations for these groups resulting in learning opportunities that tend to exacerbate the achievement gap between them and their more advantaged White and Asian peers. In New Zealand, Maori and Pasifika students often underachieve and so this study provides findings related to whether teacher expectations may be one explanation for that disadvantage.

Keywords: teacher expectations; ethnic minority; elementary school; student achievement; math; reading

1. Introduction

In New Zealand, as in many Western countries, minority group students do not achieve as well as European or Asian students. Consequently, researchers have sought explanations by examining teacher instructional practices. Less emphasis has been placed on the socio-psychological factors that may play a part. However, the beliefs of teachers have been shown to influence the ways in which they instruct students and interact with them (Weinstein, 2002). The current study sought to examine teacher beliefs in the form of expectations and whether these differed by student ethnicity, controlling for achievement. While expectations for different ethnic groups have been explored in a limited number of studies (e.g., Hinnant, O’Brien, & Ghazarian, 2009), few have controlled for achievement. Rather, expectations by ethnic group have been compared (e.g., Rubie-Davies, Hattie, & Hamilton, 2006). The

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current study sought to examine teacher expectations of different ethnic groups in New Zealand controlling for achievement.

1.1. Theoretical Framework

Teacher expectations have consequences for student outcomes because teachers alter instructional practices such that high expectation students receive more opportunities to learn while lows are given repetitive, non-challenging work (Rubie-Davies, 2007). Further, students are aware of teachers’ expectations (Weinstein, 2002), may internalize these and subsequently achieve according to their teacher’s expectations (the self-fulfilling prophecy). For students from ethnic minority groups, perceptions of lowered teacher expectations can trigger stereotype threat whereby students’ awareness of stereotypes about their group’s achievement leads to confirmation of the stereotype (Steele & Aronson, 1995). Indeed, African-American students, for example, are more vulnerable to teachers’ expectations than majority students (McKown & Weinstein, 2002).

Early meta-analyses of experimental studies suggested that teacher expectations were higher for White and Asian students than for minority groups (Baron, Tom, & Cooper, 1985; Dusek & Joseph, 1985). In a recent meta-analysis of mostly naturalistic studies, Tenenbaum and Ruck (2007) showed that compared to White students, expectations were higher for Asian-Americans but lower for African-American and Latino students. However, the studies reported did not control for achievement. McKown and Weinstein (2008) showed that teachers’ expectations for White students were higher than for African-American or Latino students with similar achievement and in a New Zealand study, Rubie-Davies and colleagues (2006) found that teachers had high expectations for New Zealand European and Asian students compared to achievement, but not for indigenous Maori. Further, expectations for Pasifika students (those whose parents are from Pacific Islands such as Tonga, Samoa, Niue and Fiji) were higher than for Maori although Maori achievement was superior to that of Pasifika students. This is the only study in the expectation field to have examined teacher expectations of the four largest ethnic groups in New Zealand.

Because of concerns within New Zealand at the low achievement of Maori students in particular, teachers have been made aware of their stereotyping and the low expectations that can result (e.g., Berryman & Bishop, 2006). Hence, the current study had two major purposes. First, it was designed to further explore teachers’ expectations of Maori, Pasifika, Asian and New Zealand European students controlling for achievement. Second, it was designed to examine whether the recent teacher professional development in the form of raising awareness of biased teacher expectations had had any effect. A third related purpose of the study was to explore teachers’ expectations in math as well as reading (since expectations in reading had been examined in a previous study; Rubie-Davies et al., 2006).

2. Method

2.1. Participants

Following ethical approval, 12 elementary schools in Auckland, New Zealand, were recruited to participate. Auckland schools are multicultural although more affluent schools have mostly European and Asian students and lower socioeconomic schools mostly European, Maori and Pasifika.

2.1.1. Teachers

Within these schools, 90 teachers agreed to be part of the study. Of these teachers, 25 were male and 65 were female; 69 were European, 9 Maori, 9 Pasifika and 3 were Asian; teaching experience ranged from 1–41 years with most (56%) having taught for 10 years or less. Teachers taught at differing levels: 26 taught Years 3–4 students (Grades 2–3), 34 taught Years 5–6 (Grades 4–5) and 30 taught Years 7–8
(Grades 6–7). Schools represented all socioeconomic levels and hence 18 teachers were in low socioeconomic areas, 18 were in high and the remaining teachers were in middle income areas.

2.1.2 Students
Of the 2352 students, 1200 were male, 1152 female; 1142 were European, 417 Maori, 374 Pasifika, 345 Asian and 74 Other; 473 students were attending low socioeconomic schools, 520 high socioeconomic and 1359 middle income schools; 625 students were in either Year 3 or 4, 859 were in Year 5 or 6 and 868 were in Year 7 or 8.

2.2 Measures
2.2.1 Expectation measure
At the beginning of the academic year, to measure expectations, teachers estimated the level that they believed each student would achieve in math and in reading by the end of the year, from very much below average to very much above average on a 1–7 Likert scale and based on National curriculum levels.

2.2.2 Student achievement
Students completed a New Zealand standardized math and reading test called asTTle. Each test was 40 minutes in duration and students completed a test based on their current levels. In other words, the test designed for a Year 4 student would not be the same as that for a Year 8 student.

2.3 Procedures
Approximately one month into the academic year, teachers completed the expectation measure. Teachers were given this time to become familiar with their students since the research suggests that teachers form their expectations early and that these then do not change (Raudenbush, 1984). At the same time, students completed the asTTle tests. Hence, teachers completed their expectations before student standardized assessment results were available. The first author created tests online that were suitable for each class level and then teachers assigned their students to an appropriate test. Once all tests had been completed they were marked on-line by the research team (for more details about asTTle go to: http://e-asTTL.e.tki.org.nz/).

3. Results
Not all students were present for the asTTle reading and math tests, or their teachers considered they were special needs students and hence numbers completing each test varied and are lower than for expectations for which all students had a teacher expectation. As can be seen by the means in Table 1, expectations were lower for Maori and Pasifika than for European and Asian in both reading and math. However, achievement in reading and math were also lower.
Table 1 Means and Standard Deviations for Teacher Expectations Student Achievement in Reading and Math

| Ethnicity | Reading expectation $M$ ($n=2352$) | SD | Math expectation $M$ ($n=2352$) | SD | Reading achievement $M$ ($n=1831$) | SD | Math achievement $M$ ($n=1908$) | SD |
|-----------|-----------------------------------|----|----------------------------------|----|----------------------------------|----|---------------------------------|----|
| European  | 4.90                              | 1.46 | 4.74                             | 1.35 | 1411.25                          | 108.50 | 1431.31                         | 92.73 |
| Maori     | 4.54                              | 1.38 | 4.44                             | 1.31 | 1362.10                          | 98.30   | 1391.55                         | 92.73 |
| Pasifika  | 4.40                              | 1.50 | 4.43                             | 1.48 | 1344.90                          | 89.14   | 1382.63                         | 84.62 |
| Asian     | 4.91                              | 1.48 | 5.33                             | 1.32 | 1432.50                          | 106.77 | 1485.47                         | 106.00 |
| Other     | 4.52                              | 1.45 | 4.56                             | 1.50 | 1400.11                          | 106.92 | 1424.70                         | 96.29 |
| Total     | 4.73                              | 1.47 | 4.71                             | 1.40 | 1395.19                          | 107.81 | 1423.87                         | 97.92 |

We also wanted to investigate the extent to which teachers’ expectations were accurate, so a Pearson product-moment correlation was calculated. Interestingly the correlations between reading and math achievement ($r = .827$) and between teacher expectations in reading and in math ($r = .771$) were strong, while the correlations between teacher expectation and achievement in reading ($r = .435$) and math ($r = .461$) were moderate.

Two hierarchical linear regressions were used to assess whether ethnicity influenced teacher expectations, controlling for reading achievement in the first regression and math achievement in the second. Achievement was entered as Step 1, explaining 18.9% of the variance in teacher expectations in reading. After entering ethnicity, at Step 2 the total variance explained by the model as a whole was 19.1%, $F (2, 1828) = 215.86$, $p < .001$. Ethnicity explained an additional 2% of the variance in teacher expectations after controlling for student achievement, a small effect as defined by Cohen (1988), $R^2$ change = .002, $F$ change (1, 1828) = 4.11, $p < .04$. In the final model both achievement ($β = .43$) and ethnicity ($β = .04$) were significant.

In the second regression, at Step 1 math achievement explained 21.3% of the variance in teacher expectations in math. After entering ethnicity, at Step 2 the total variance explained by the model as a whole increased slightly at 21.4%, $F (2, 1904) = 258.99$, $p < .001$. Ethnicity explained very little additional variance in teacher expectations after controlling for student achievement, $R^2$ change = .001, $F$ change (1, 1904) = 3.03, $p = .08$. In the final model achievement ($β = .46$) and not ethnicity ($β = .04$) was significant.

4. Discussion

This study provided some evidence showing that despite attempts by the New Zealand Ministry of Education to alter teachers’ expectations of Maori and Pasifika students, in reading at least, some of the variance in teacher expectations could be explained by student ethnicity. In math, the variance in teacher expectations by ethnicity approached significance. Hence, teachers were using ethnicity as one basis on which they formed their expectations in reading although the effect size was very small. Nevertheless, that there was no such differentiation in math is perhaps cause for hope, especially considering there is an achievement gap in math as well as in reading between New Zealand European and Asian students and Maori and Pasifika students.

Minority group students often come from homes that are disadvantaged socioeconomically and hence they have large obstacles to overcome on their arrival at school. Research suggests that for a variety of social reasons, Maori and Pasifika students have interacted with their parents far less frequently than New Zealand European students when they begin school and so have much less literate cultural capital when they commence their time in the compulsory education sector (Tunmer, Chapman, & Prochnow, 2006). Hence there is a literacy gap that needs to be closed. A similar gap also exists in math at school entry. In contrast, Asian students, who are often English second language students but from
wealthy home backgrounds, have a rich foundation in their own language on which to build their new language and they tend to achieve well in the New Zealand system.

When teachers have low expectations for a particular group this can result in teachers providing less opportunity to learn for some groups who arguably need more. Low expectations result in teachers teaching fewer concepts to students and at a slower pace whereas for high expectation students they introduce more new concepts and at a faster pace (Page & Rosenthal, 1990). Unfortunately there is some evidence that teachers accept the stereotyping of Maori as not being interested in education (Rubie-Davies, et al., 2006) and possibly make less effort to teach them. Less is known about teachers’ expectations of Pasifika students and this is an area for future research. Studies have shown, however, that Maori students recognize when teachers have low expectations for them and so put in less effort than they do for teachers who have high expectations for them (Berryman & Bishop, 2006). The same may apply to Pasifika students. Ennis (1998) had similar findings for African American students in the US, whereby they reported being more academically engaged in classes where they believed their teachers had high expectations for them and conversely not putting in effort in classes where they believed their teachers had low expectations for them and did not care about them.

Despite obstacles, many Maori and Pasifika students succeed well in education. Teachers play a key role in ensuring that the future for these students is as positive as it can possibly be. Every economy benefits from a skilled and educated workforce and teachers play a key role in creating the economies of the future.

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