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PERCEPTIONS OF ACHIEVEMENT - COMPARED TO WHOM?

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Abstract

Social comparisons are an important source of students' perceptions of their own achievement, for instance, comparisons made to the boys and girls in the class. For the present study, students rated their achievement (performance and effort) and were then asked to make comparisons to most boys and girls in their grade, in two subject domains, Mathematics and English. The findings were similar for gendered comparisons within the grade as were found in a previous study of comparisons within the class. There was an interaction effect between gender and the comparison type, for English but not Mathematics. Girls rated themselves higher when they compared their English performance to boys than when they made comparisons to other girls, whilst boys rated their opposite-sex comparisons lower than same-sex comparions. A corresponding effect was found in the opposite direction for perceptions of effort. One explanation of this anomaly between English and Mathematics is that comparisons are influenced by traditional gender stereotypes, but making the comparison explicit overlays onto traditional stereotypes ideas about gender equality; ideas which are applied only to Maths.

Perceptions of achievement - Compared to whom?

To add to our understanding of the effects of traditional gender stereotypes on students' perceptions of their own achievement, we need to consider social comparison processes. It has been argued that it is the physical presence or absence of boys or girls that influences students' perceptions by altering the comparison group. The social comparison process was highlighted in a study by Lenney (1977) who observed that gender differences in self-confidence were often present in settings containing salient social comparison cues such as gender, but were generally absent in settings that minimized such cues. The presence or absence of the relevant comparison group has been proposed as a possible explanation for the effect of school type on perceived achievement (e.g. Marsh, Smith & Marsh, 1988) in which gender stereotypes are reduced at single-sex schools. We would therefore expect to find that gendered social comparisons made about students' perceptions of achievement would reflect traditional gender stereotypes in co-educational settings. Instead of assuming that social comparisons are made to gender

groups in co-ed settings, we have set about making such comparisons explicit.

It is possible that if comparisons are made within classroom groups, students would be in a position to know about the actual performance of others. Their responses may therefore be influenced to some extent by actual gender differences in performance in the local context. A study in this research programme (Bornholt & Cooney, in press) used explicit gendered comparisons within the classroom to investigate students' perceptions of their own performance in Mathematics and English. Mean scores for boys and girls reflected traditional gender stereotypes in perceptions of both performance and effort, but only in English and not in Mathematics. It is important to note that there were no gender differences in actual performance on standardised tests of Maths and English.

Whilst comparisons of self against classmates may be based to some extent on knowledge of one another's performance, it would be more difficult to do so using the whole grade as a reference group. The present study used explicit social comparisons within and between gender groups in the whole grade, and compared the results to the previous study of gendered comparisons in the classroom. If changing the reference group is an important factor, then traditional stereoptypes should become a more powerful influence on perceptions for both Mathematics and English.

METHOD

Participants

Year 12 students (N=98 35 boys and 63 girls) at a co-educational high school participated in the study as part of a survey of their perceptions of achievement in relation to choices of HSC subjects.

Materials

Questionnaire items were repeated, with and without explicit social comparisons, as part of the survey of attitudes to achievement. Separate booklets were used for Mathematics and English. The questionnaire items which are of interest in this study were about perceived performance and perceived effort. For example, no comparison was made when asking "How well do you think you will do in Maths this year?". This was followed by the items "Compared to most of the boys in Year 12, how well do you think you will do in Maths this year?" and "Compared to most of the girls in Year 12, how well do you think you will do in Maths this year?". The format was similar for items about perceived effort. All the items used 7-point rating scales from 1 (low) to 7 (high).

Procedure

Students were asked by their teachers to complete the questionnaires in their regular school time. Confidentiality of their responses was assured.

Analyses

Mean scale scores were calculated for boys and girls on items which made no comparison, and items which made comparisons to the same-sex and to the opposite-sex. Paired t-tests were used to test the significance of the differences between the means for same-sex and opposite-sex comparisons, and for items without comparison and same-sex comparisons.

RESULTS

Mean scale scores (and standard deviations) for students' perceptions of performance and effort in Mathematics and English are shown in Table 1. Mean scores are given for items which made no explicit comparison, and items which made explicit comparison to the same-sex and to the opposite-sex in the whole grade.

Consistent patterns can be seen in Figure 1 reflecting an interaction effect between gender and type of comparison (same-sex or opposite-sex) for English. The significance of the differences between same-sex and opposite-sex comparisons was tested using paired t-tests. Explicit social comparisons made within and between gender groups were significantly different for perceptions of students' English performance. On average, when boys compared themselves to girls on performance in English they rated themselves lower than when they compared themselves to

other boys (t=4.15,p<.001). Girls rated themselves higher when they made opposite-sex comparisons than when they made same-sex comparisons about their performance in English (t=-6.61,p<.001). Significant differences in the opposite direction were found for perceived effort in English. On average, the boys thought that they required more effort in English when they compared themselves to girls than when they compared themselves to other boys (t=-3.97,p<.001) and the reverse was found for girls (t=3.99,p<.001). We can see that there were no significant differences for gendered comparisons about perceptions of achievement in Maths (Figure 2).

Table 1 Mean scale scores (sd) for perceived performance

and effort in Mathematics and English in Year 12

	PERCEIVED PERFORMANCE				PERCEIVED EFFORT			
	Maths		English		Maths		English	
	boys	girls	boys	girls	boys	girls	boys	girls
No comparison	5.28 (1.4)	4.06 (1.5)	3.99 (1.1)	4.37 (1.5)	4.75 (1.6)	5.28 (1.5)	4.80 (1.5)	4.56 (1.5)
Same-sex comparison	5.11 (1.4)	4.11 (1.5)	4.40 (1.3)	4.14 (1.5)	4.31 (1.3)	4.56 (1.4)	4.06 (1.2)	4.53 (1.4)
Opposite -sex	5.03 (1.5)	4.05 (1.6)	3.74 (1.3)	4.83 (1.5)	4.26 (1.4)	4.65 (1.5)	4.68 (1.2)	4.03 (1.4)

Patterns in students' responses to the items which did not make explicit gendered comparison and those which asked students to make same-sex comparisons were also analysed. There was some indication that where stereotyped perceptions may be expected to be high, means scores of items without comparison tended to be

higher than mean scores of items with same-sex comparisons (for example, for perceptions of performance by boys in Mathematics and by girls in English). The differences between the means were in the expected direction and were significant for girls' perceptions of performance in English ($t=2.56, p=.01$) and effort in Maths ($t=4.63, p<.001$) and for boys' perceptions of effort in English ($t=3.04, p<.01$).

DISCUSSION

Current results using gendered comparisons within the grade have replicated those from the previous study (Bornholt, in press) where the students' own class served as a reference group. The effect of explicit social comparions on students' perceptions

of achievement would appear to be a general one. Possible explanations for the phenomenon do not rest on the likelihood of knowledge of others' actual performance. Again, the same interaction effect between gender and the object of comparison (same-sex or opposite-sex) was found in students' perceptions of their performance and effort in English, but not for Maths. The finding that traditonal gender stereotypes have an influence on the process of social comparisons in students' attitudes to achievement in English but not Maths is therefore a robust one. What needs to be addressed is why it is occurring.

One possible explanation lies in current anti-sexist education initatives. Perceptions of girls' inferiority at

mathematical tasks have been explicitly countered by intervention programmes and publicity about gender equality in mathematical performance. The present results suggest either that the programmes have been successful or that school students have learned not to make explicit gender-stereotyped judgements. Boys' perceived deficit at language skills has not been addressed in the same way so that, again, gender stereotypical attitudes have remained intact or perhaps students have not learned the correct counter-sexist responses.

Previous research on the sources of students' perceptions of achievement (Bornholt, 1990) would tend to support the view that students have learned not to make explicitly sexist statements.

Evidence was found of the influences of gender stereotypes on students' perceptions of achievement (for example, when asked 'Would you consider yourself to be naturally talented at Maths?'). However, the same students tended to give non-gender stereotyped responses to general statements about gender and achievement (for example, 'In general, how do you believe males and females compare in their natural Maths ability?'). The main feature of the social comparisons about Mathematics was simply that the gendered comparisons were made explicit. It would seem that such traditionally stereotyped attitudes are held about oneself in various forms, but are not explicitly stated about Maths and gender. The same cannot be said for English.

A subsidiary finding of the current study casts an interesting light on how gender stereotypical attitudes may be applied to the self. Examination of students' perceptions of performance at least suggests that other boys (if one is a boy) and other girls (if one is a girl) are perceived as behaving more like the stereotypes than does oneself. A simple explanation is that there is a self-serving effect in these self-evaluations. Further investigation of this phenomenon may also explore the notion that the within-gender group comparison elicits heightened contrast effects to enhance a sense of "other" which is hardly necessary for between group comparisons.

For future research on social comparisons it is tempting to

draw on the literature on self-categorisation (e.g. Turner, 1982) for explanations of within-gender social comparisons as well as between-gender social comparisons. We need to think about how we frame the questions we use and consider the ways in which features of these questions may prompt students to categorise themselves with reference to salient social groups. It is difficult to explain the complexities of self-evaluations simply in terms of the presence or absence of gender groups in a particular setting.

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