

Do students who get low grades only in research methods need the same help as students who get low grades in all topics in psychology?

John A. Barry

Some psychology students achieve high grades in all classes except for research methods (RM). Previous research has usually treated low levels of achievement in RM as a unitary phenomenon, without reference to the grades the student is achieving in other subjects. The present internet survey explored preferences for learning RM in 140 psychology students. Students were categorised as: those who achieved higher grades for RM than other subjects in psychology; those whose grades for RM were equal to their grades for other subjects; and those who had lower grades for RM than other subjects. An interesting finding was that whereas wanting to see more humour in RM teaching was significantly associated with lower RM grades, wanting more visual aids in teaching RM was significantly associated with low grades only for RM. Implications of these findings are discussed in relation to explaining low achievement specific to RM.

Keywords: *Research methods; statistics; dyscalculia; learning; teaching; visual.*

NEGATIVE ATTITUDES towards statistics is a major barrier to learning statistics (Mills, 2004). There appears to be a range of causes of negative attitudes to learning statistics and research methods. Motivation to learn RM may be low for psychology students because many do not see much value in it (Ruggeri et al., 2008a). For example, in Britain 20 per cent or fewer of psychology students will become professional psychologists (BPS, 2008), and even amongst those who do, some may not value research methods as highly as clinical skills.

Reid and Mason (2008) highlight some of the many difficulties facing social science students learning statistics and research methods, for example, textbooks may be dull and complex concepts may be presented in a way that doesn't best facilitate understanding. This being the case, many authors have tried to improve the teaching of statistics and research methods. For example, Brandsma (2000) developed a hands-on approach to teaching statistics in an effort to improve

students' understanding, but had limited success. This difficulty might indicate that learning preferences for statistics are more complex or numerous than Brandsma's intervention allowed for.

Some research suggests that there are individual differences in students' learning preferences for research methods. In a review of research on humour in the teaching of statistics to psychology students, Neumann et al. (2009) found that humour can work well for students with negative views of statistics, but works less well with more motivated students. Contextual factors are important too, for example, student anxiety has been found to be reduced by the attentiveness of the teacher (Pan & Tang, 2005), and there is a well-recognised negative association between anxiety and RM grade (e.g. Fitzgerald, 1996). It is interesting to note that 47 per cent of participants in the Neumann et al. study reported that humour reduced their anxiety, and it might be inferred that students who receive lower

grades in RM could have a learning preference for a more relaxed and humorous classroom experience. However, like most studies of learning preferences for statistics and research methods, Neumann et al. did not assess the relationship between students' RM grades and their learning preferences. Similarly, the degree to which learning preferences for RM are related to academic aptitude specific to RM is underexplored in the research literature.

Other factors that may be associated with learning preferences in general remain to be fully explored in regards to research methods. For example, the degree to which some students prefer visual stimulation compared to other sensory input (Kolb, 1985, 1999a) has received limited attention in the field of research methods (Bell, 1998). Some research has been done in regards to learning mathematics, finding a range of visual techniques useful (Presmeg, 2006). The relationship between visual ability and mathematic skill is complex. For example, there is some evidence that visualisation may also be very good in those with dyscalculia (Peard, 2010), and may also be a method favoured among those interested in mathematics, though only a minority (Presmeg, 2006), suggesting that the relationship between learning preferences and mathematical ability is likely to be complex.

It is often anecdotally said that the capacity to learn research methods and statistics is to some degree innate; some students appear to achieve high grades with little effort, whereas others work very hard even to pass. According to the Department for Education and Skills, dyscalculia is 'a condition that affects the ability to acquire arithmetical skills' (DfES, 2001, p.2). Whether RM grade is facilitated by an innate gift for mathematical reasoning, or hindered by some form of 'dyslexia for research methods' similar to dyscalculia, is an interesting question but not the central focus of this paper. The assessment of dyscalculia is best left to those with specialist training and equipment. (Readers interested in dyscal-

culia are referred to the work of Butterworth, for example, Butterworth, 2011.) However if there is a difference in learning preferences for RM between those who find it easy to achieve high RM grades and those who don't, then such information has important implications for students and teachers of RM. The aims of the present study were firstly to find out from students how they thought their learning of research methods might be improved, and secondly to find out whether a student's research methods grade relative to other grades is associated with their preference for teaching methods.

Method

This study was an exploratory cross-sectional internet questionnaire survey. The questionnaire consisted of items created specifically for this survey. Free text responses were encouraged. Because 'research methods in psychology' classes generally teach a mixture of statistics, quantitative, and qualitative research methods, the term 'research methods' in this paper generally refers to this spectrum of materials, except where specified otherwise.

Participants

One-hundred-and-fifty-seven participants were recruited from two online psychology groups, *Psychology on The Net* and *Online Psychology Research* between February 2009 and January 2011. One-hundred-and-forty of the participants answered all questions and were included in the main analyses.

This study was approved by the Senate Research Ethics Committee for City University, London.

Materials

Actual Research Methods Grade (AG)

The survey consisted mostly of closed questions yielding binary (yes/no) data.

The students were asked to state their usual RM grade ('Actual Grade', or 'AG'). From their answers, grades were categorised from 1 to 5, where 5 indicated a top grade (a 'first', 'A' etc), 4 indicated a '2:1' or B, etc.,

down to 1 ('Fail', 'E', or lower). For most analyses below, actual grades were grouped into top grades, second-from-top grades, and other grades. 'AG-A' indicates those whose actual RM grade is an A or a first (i.e. the top grade), 'AG-B' indicates an actual B grade for RM, and so on.

Relative Research Methods Grade (RG)

In order to measure specific ability in RM rather than general academic ability, RM achievement was measured by comparing a student's actual RM grade to their grades for other psychology topics. Students thus were grouped as those whose grades were higher at RM than other topics (called 'RG-A'), those whose grades were equally good for RM and other subjects ('RG-B'), and those whose grades were worse for RM than other subjects ('RG-C').

It should be noted that, logically, being RG-A does not necessarily mean getting a top grade for RM, only that the grade a student achieves for RM is generally better than their grades in other psychology topics. Thus the point of measuring the relative grade is to highlight relative RM ability rather than general academic ability.

Learning preferences

A list of 12 items representing various classroom options was presented (see column 1, Table 1) with a 'yes/no' response option. For example, 'Research methods grades/teaching could be improved by more seminars. Yes or no.'

Stress

Stress was measured using a single question ('How stressful do you find RM compared to other subjects?'). This was Likert-scaled from 1 to 5 with a high score indicating higher stress.

Other variables

Age and gender were given. Socioeconomic class (SEC) was estimated from the occupational status of the main wage earner in the participant's home when the participant was

aged 14. This is based on a method used by the UK government in the 1990s (Rose & O'Reilly, 1997). The responses were divided into three categories as described by the Office for National Statistics (ONS, 2004): managerial, intermediate, and manual. The geographical region that students were studying in was also given using free text.

Students were also asked to identify the subject they found most difficult in psychology from a choice of social psychology, cognitive psychology, research methods, biological psychology, abnormal/clinical psychology, developmental psychology, or 'other'.

Statistical analysis

Missing values (<2 per cent) were deleted pairwise from analyses. Participants that did not identify their actual RM grade were excluded from the main analyses. Parametric tests were used where distributions passed tests of normality. All *p* values are two-tailed. Analyses were performed using SPSS Version 20 (IBM, 2011).

Results

Demographics

Demographic characteristics, and whether they were statistically similar in the AG and RG groups, are shown in Table 1. The sex distribution of participants (118 female and 39 male) was normal for psychology students (APA, 2009). Although there was no difference in actual grades in the UK compared to other regions (AG $\chi^2=0.96$, $df=2$, $p<.618$), proportionally more students from the UK were RG-A, that is, got better grades for RM than other subjects (20 of 59, or 34 per cent) compared to students from other regions (four of 58 in US and Canada, seven per cent; one of 19 from other parts of the world, five per cent) (Fisher's Exact Test=20.21, $p<.001$). Further analysis revealed that differences in preference for learning styles by region were largely due to the greater number of RG-A grades in the UK than other regions, and that little regional difference was observed for the RG-B and RG-C

Table 1: Demographic characteristics of the groups, and whether they were represented differently in the AG or RG group.

					Difference by AG	Difference by RG
Sex	Men N=39 (25%)	Women N=119 (75%)			Ns	Ns
Age in years median (range)	24 (16 to 58)					
Educational level	High School N=18	1st year undergraduate N=42	2nd or 3rd year undergraduate N=37	Masters or Doctorate N=60		Ns
Socioeconomic group	Manual N=62	Intermediate N=40	Managerial N=45		Ns	Ns Ns
Region where studying	UK N=66	US or Canada N=64	EU outside UK N=5	Other regions N=19	Ns	$p<.001$

Ns=non-significant

groups. For this reason the regional difference was not factored into further statistical tests presented in this paper.

Actual research methods grade (AG)

Of the responses that could be coded (N=140), 50 (32 per cent) got the highest grade, 59 (38 per cent) the next highest, 25 (16 per cent) the next, and six (four per cent) got a pass mark. There were no reported failures. Seventeen (10 per cent) participants left this section blank or gave an uncodable response, for example, '[my grade] varies'.

Relative research methods grade (RG)

Twenty-two students had higher grades for RM than other topics (called 'RG-A'), 56 had equal grades in RM and other subjects ('RG-B'), and 44 had lower grades in RM than other subjects ('RG-C'). There were 12 missing or uncodable responses. A higher RG score indicates higher grades in research methods relative to other topics.

Relative research methods grades were strongly correlated with actual research methods grades ($r=.611$, $N=134$, $p<.005$).

Learning preferences grouped by actual

RM grades

Table 2 shows student preferences for factors associated with learning research methods and statistics, grouped by actual grades. There was only one clear difference between the groups in learning preference, and that was for the use of humour in teaching ($\chi^2=6.96$, $df=2$, $p<.031$). This was emphasised by the linear-by-linear association between humour and grade, indicating that the better the student's grade, the less they wanted humour in teaching ($\chi^2=6.70$, $df=1$, $p<.01$).

Table 3 shows student preferences for factors associated with learning research methods and statistics, grouped by relative grade.

Learning preferences grouped by relative RM grades

Table 3 shows that the students' relative strength in RM made no significant difference for most of the learning options listed. The main significant difference between the three groups was that compared to other students, fewer of the students who were better at RM than other subjects (RG-A) wanted more interaction with the tutor

Table 2: Learning preferences by actual research methods grade, and in order of popularity.

'Research methods grades teaching could be improved by...'	A grade (N=50) % (N) agree	B grade (N=59) % (N) agree	C or D (N=31) % (N) agree	Overall (N=140) % (N) agree	Overall (N=140) χ^2
More interactive teaching/learning	66% (33)	66% (39)	65% (20)	66% (92)	0.25
More practical work, less theory	54% (27)	54% (32)	58% (18)	55% (77)	0.15
Greater use of visual teaching aids	50% (25)	49% (29)	65% (20)	53% (74)	2.18
Greater use of humour in teaching	36% (18)	54% (32)	65% (20)	50% (70)	6.96**¥
Textbooks that are more interesting	48% (24)	48% (28)	65% (20)	51% (72)	2.73
More seminars	41% (18)	43% (24)	48% (12)	43% (54)	1.80
More coursework, fewer exams	36% (18)	49% (29)	39% (12)	42% (59)	2.11
Smaller seminar groups	32% (16)	42% (25)	45% (14)	40% (55)	1.76
More qualitative work	36% (17)	39% (21)	48% (13)	36% (51)	1.01
More teaching of abstract concepts	32% (16)	17% (10)	32% (10)	26% (36)	4.10
More lectures	20% (09)	20% (11)	40% (12)	25% (32)	4.97
More group assessment	20% (10)	19% (11)	26% (08)	21% (29)	0.66

Note: * $p < .05$; ** $p < .01$. Significance values are two-tailed.

¥=significant group difference and linear-by-linear association.

Percentages vary slightly where a student has stated a preference for all 12 items.

($\chi^2=9.69$, $df=2$, $p < .008$). Also, there was a significant linear-by-linear association indicating that the lower the RM grade relative to other subjects, the more students wanted to see visual aids in teaching ($\chi^2=4.99$, $df=1$, $p < .025$).

Group assessment (where students are assessed on a project that requires the combined efforts of several students) was the least popular of the learning preferences listed here. Overall, 21 per cent of students said they wanted more group assessment, and there was a non-significant linear-by-linear association indicating that the better students were at RM compared to other subjects, the less they wanted group assessments ($\chi^2=3.37$, $df=1$, $p < .066$).

Actual grades and relative grades

Table 4 shows the actual grades achieved by students in the three relative grades groups. There was a significant linear-by-linear association between actual grade and relative grade ($\chi^2=47.83$, $df=1$, $p < .001$) demonstrating that actual RM grades were strongly positively associated with relative grades.

Stress

There was a weak negative correlation between stress related to AG ($r^s=-.175$, 140, $p < .038$) and moderate negative correlation between stress related RG ($r^s=-.433$, 140, $p < .001$).

Free text responses

In their free text responses, many students expanded on reasons for their preferences. A typical response was that interaction was important and the tutor should be someone who has patience and can explain RM to the students.

Table 3. Learning preferences by relative research methods grade (RG), and in order of popularity.

'Research methods grades teaching could be improved by...'	RG-A (N=27) % (N) agree	RG-B (N=62) % (N) agree	RG-C (N=51) % (N) agree	Overall (N=140) % (N) agree	Overall (N=140) χ^2
More interactive teaching/learning	43% (12)	76% (48)	67% (33)	66% (93)	9.69**
More practical work, less theory	46% (13)	62% (39)	57% (28)	57% (80)	1.90
Greater use of visual teaching aids	36% (10)	56% (35)	63% (31)	54% (76)	4.99*¥
Greater use of humour in teaching	46% (13)	51% (32)	57% (28)	52% (73)	0.90
Textbooks that are more interesting	39% (11)	49% (31)	61% (30)	51% (72)	3.67
More seminars	48% (13)	32% (20)	45% (23)	40% (56)	2.85
More coursework, fewer exams	30% (09)	50% (32)	45% (21)	44% (62)	2.80
Smaller seminar groups	39% (11)	32% (20)	51% (25)	40% (56)	4.27
More qualitative work	26% (7)	37% (23)	39% (20)	36% (50)	1.97
More teaching of abstract concepts	29% (8)	30% (19)	20% (10)	26% (37)	1.43
More lectures	30% (8)	19% (12)	26% (13)	24% (33)	1.27
More group assessment	7% (2)	24% (15)	27% (13)	21% (30)	4.36

Note: * $p < .05$; ** $p < .01$. Significance values are two-tailed.

¥=significant linear-by-linear association

RG-A=higher grades for research methods than other subjects; RG-B=grades for research methods equal to subjects;

RG-C=lower grades for research methods than other subjects.

Percentages vary slightly where a student has stated a preference for all 12 items.

Table 4: Overlap between actual research methods grades (AG) and the RM grade relative to grades for other topics (RG). Each cells shows the percentage of RG students within each AG category in that cell.

	RG-A (N=28)	RG-B (N=61)	RG-C (N=45)
Actual RM Grade			
A grade	18 (64%)	29 (48%)	0 (0%)
B grade	9 (32%)	27 (44%)	20 (44%)
C or D grade	1 (3.6%)§	5 (08%)	25 (56%)

§ The RG-A student in the 'C or D grade' cell reported generally getting a C grade in RM.

Most difficult topic in psychology

The subject most often cited as the most difficult in psychology was research methods (35 per cent of responses, 39 students). Twenty-four per cent (12 students) of those who got top grades in RM said that RM was the hardest subject, compared to 45 per cent (14 students) getting C grades or lower. Sixty-five per cent (32 students) of the RG-C students said RM was the hardest subject, as did 27 per cent (17 students) of the RG-B students. None of the 28 RG-A students thought RM was the hardest topic. The psychology subjects the RG-A students found most difficult were, cognitive psychology (18 per cent, five students), biological psychology (18 per cent, five students), and developmental psychology (18 per cent, five students).

Discussion

This survey found that research methods students have preferences for certain learning styles, and some of these are related to the grade they receive in research methods assessments.

Reid and Mason (2008) suggest that social sciences students learning statistics and research methods sometimes find textbooks dull, and that complex concepts were not always presented in a way that maximised understanding. The present findings support Reid and Mason's suggestions to a degree, though are statistically non-significant. Fifty-one per cent of students wanted more interesting textbooks, with a non-significant trend towards this preference coming mainly from students achieving lower grades. Only 26 per cent of students wanted to see more teaching of abstract concepts, and this was fairly consistent across students of the various levels of achievement. Brandsma's (2000) suggestion for more practical teaching methods received relatively strong support in the present study, with roughly 56 per cent of students of all abilities wanting more practical work and less theory.

The present study found that better RM grades were weakly but significantly associated with less stress over RM, but that being

relatively worse at RM than other subjects was moderately-to-strongly associated with stress related to RM. This finding fits with previous findings relating RM and statistics grades with stress (e.g. Fitzgerald, 1996). However, the direction of causation is difficult to identify from the present study, being a cross-sectional survey in design. Pan and Tang (2005) found that student anxiety can be reduced by increasing the attentiveness of the tutor, and given that 66 per cent of students of all abilities in the present survey said that they wanted more interactive teaching, and that interaction reduces anxiety, and that anxiety is associated with lower grades, it might be suggested that increasing interactive teaching would reduce student stress and increase student grades. Interestingly, although smaller seminar groups would afford students greater interaction with the tutor, only 40 per cent said they wanted smaller seminar groups compared to the 66 per cent of students who said they wanted more interactive teaching.

Possibly related to the issue of lower grades being associated with stress, few students said they wanted more group assessments. There was a trend, though non-significant, towards the RG-A students wanting group work least and the RG-C students wanting group work most.

The findings of the present study are very much in line with Neumann et al. (2009) who found that humour in statistics classes works best for students who have negative feelings towards the subject, and is less effective for students who are well-motivated. In the present study, students' actual RM grades showed a significant trend reflecting the pattern suggested by Neumann et al. Students' relative RM grades reflected this pattern too, but non-significantly.

Kolb's (1985, 1999a) suggestion that some students prefer visual stimulation compared to other sensory input receives support from the present study, which found that visual teaching aids were a popular suggestion amongst a third to two-thirds of all levels of students, especially those getting

lower RM grades (both AG and RG). It is possible that fewer of those getting higher grades felt the need for more visual aids in teaching, given that they were already achieving high grades. However, perhaps of more relevance is that the trend for preference for visual aids in the teaching of RM was strongest when the association was seen in terms of relative RM grades. This finding supports Peard (2010), who found that people with dyscalculia may have very good visualisations skills. This finding is potentially of importance because it suggests that if RG-C students have some degree of dyscalculia, then RM teachers may be able to capitalise on any visual preference these RG-C students may have, and the grades of these students may improved by the use of more visual teaching methods. Clearly, further research on this hypothesis is indicated.

Relative research methods grades were strongly correlated with actual grades, indicating that those who got the highest grades in RM tended also to get better grades in RM than other psychology topics. This may be unsurprising, but perhaps more importantly, 36 per cent of students (20 of 56) who got a B grade in most psychology subjects got a C grade or less in RM. This means that a large minority of students who were reasonably strong in other psychology subjects achieved relatively low grades in RM. Thirty-five per cent of students got the highest grade in RM. Of these, 62 per cent (29 of 47) got similar grades in other subjects, indicating that these 29 students (22 per cent of the total sample) were generally academically very strong.

The present study has several limitations. Firstly, a central issue is the validity of the students' grades, which may have been over- or under-estimated by the student, or distorted by the process of categorisation used in the present study. Future studies are advised to seek more objective methods of identifying grades, for example, access to actual university records. Secondly, a measure of how each student was currently being taught was not taken. It is possible that

the RG-A students are better at RM because they already enjoy plenty of interaction with their RM tutors. Thus questions like 'How much time do you get to interact with your psychology tutor' may have been usefully included, although answers may suffer the usual distortions associated with self-report. Thirdly, there was a regional difference in relative RM grade: higher relative RM grades were seen in the UK than in other regions. However, regional differences *per se* did not appear to influence student preferences for learning. This regional difference might be the result of a sampling bias towards recruiting English-speaking students only, and a future study should sample students from non-English speaking regions in their own languages.

Table 4 highlights how relative grade is not simply about general ability; many of the RG-B students reported getting top grades across all psychology subjects, making their general academic ability better than some of the RG-A students. It is difficult to avoid the question of how much the results of this study reflect innate ability rather than (or as well as) other factors such as anxiety. None of the RG-A students thought RM was the hardest topic – including the RG-A student who generally got a C in RM – which suggests that the RG-A students did not have to work as hard at RM as other subjects in psychology to get a higher grade. In contrast, 65 per cent of the RG-C students said RM was the hardest subject. These findings – especially the RG-A finding – may hint at some innate ability for RM. Although entry to a psychology degree usually requires some aptitude for numeracy, it is possible that some students may nonetheless have a degree of dyscalculia. In the present sample, the majority of students reported achieving relatively high grades, with roughly two thirds attaining top or second-level grades (A/first, B/2:1) and no reported fails. This possibly indicates sample bias, such that those whose grades are the lowest felt least like participating in the study, but on the other hand the fact that nobody in the

present sample reported failing RM suggests that it is unlikely that anyone in the sample had a very serious problem with mathematics. Future studies should note this issue and might take two approaches: (1) recruit from samples that might yield a more diverse spectrum of abilities; (2) investigate relative RM ability in regards to visual abilities. Regarding the latter suggestion, a preference for visualisation may be something that is common to dyscalculia and RG-C students, and deserves further exploration.

Conclusion

Taken as a whole, most psychology students appear to want the same kinds of improvements to RM teaching. However, differences in preferences can be seen when the students' relative achievement in RM, compared to other topics, is taken into account. Apart from increasing teaching interaction, it seems that if the aim is simply to improve RM grades for those who are doing least well in psychology subjects in general, then using more humour in teaching is the most obvious step forward. On the other hand, if we want to help those who are not simply getting lower grades in all psychology subjects, but getting low grades mainly just for RM, then – apart from increasing interaction with the tutor – teaching should make greater use of visual teaching material. Also, because there appears to be differences in learning preferences based on relative RM grades in this study, future research into improving actual RM grades should take relative RM grades into account.

Acknowledgements

Thanks to Professor John Krantz of *Psychological Research on The Net* (<http://psych.hanover.edu/research/exponet.html>) for hosting the questionnaire. Thanks also to Professor James Hampton of City University, London, for comments on the findings. Special thanks also to all of the students who took the time to complete the survey.

Correspondence

Dr John A. Barry

Institute for Women's Health,
University College London,
Hampstead Campus,
Royal Free Hospital,
Pond Street,
London, NW3 2QG.
Email: john.barry@ucl.ac.uk

References

- American Psychological Association (2009). *Graduate Enrollments and Degrees, 1998–2008*. Accessed 9 November 2009, from: <http://research.apa.org/cws-summary.html>
- Bell, J.A. (1998). Problems in statistics: Learning style, age, and part-time students. *Education, 118*, 526–528.
- Brandsma, J. (2000). *Data collection and analysis: Examining community college students' understanding of elementary statistics through laboratory activities*. ERIC Document Reproduction Service No. ED 461 396
- British Psychological Society (2008). *Careers and qualifications: Undergraduates*. Retrieved 25 March 2008, from: [www.bps.org.uk/careers/becoming/university/university\\$home.cfm](http://www.bps.org.uk/careers/becoming/university/university$home.cfm)
- Butterworth, B., Varma, S. & Laurillard, D. (2011). Dyscalculia: From brain to education. *Science, 332*, 1049–1053.
- Department of Education and Skills (DfES) (2001). *Guidance to support pupils with dyslexia and dyscalculia* (No. DfES 0512/2001). London: DfES.
- Kolb, D.A. (1985). *Learning-style inventory: Self-scoring inventory and interpretation booklet*. Boston, MA: Hay Group.
- Kolb, D.A. (1999a). *Learning Style Inventory, Version 3*. Boston, MA: Hay Group.
- Mills, J.D. (2004). Students' attitudes toward statistics: Implications for the future. *College Student Journal, 38*, 349–361.
- Neumann, D.L. (2009). Statistics? You must be joking: The application and evaluation of humour when teaching statistics. *Journal of Statistics Education, 17*.
- Office for National Statistics ELASA (2004). *NS-SEC classes and collapses*. Accessed 29 October 2010, from: www.ons.gov.uk/about-statistics/classifications/current/ns-sec/cats-and-classes/ns-sec-classes-and-collapses/index.html
- Peard, R. (2010). Dyscalculia: What is its prevalence? Research evidence from case studies. *Procedia: Social & Behavioural Sciences, 8*, 106–113.
- Presmeg, M. (2006). Research on visualisation in learning and teaching mathematics. In A. Gutiérrez & B. Boero (Eds.), *Handbook of research on the psychology of mathematics education: Past, present and future* (pp.205–235). Rotterdam : Sense.
- Rose, D. & O'Reilly, K. (1998). *The ESRC Review of Government Social Classifications: Final Report*. London: The Stationery Office.
- Ruggeri, K., Díaz, C., Kelley, K., Papousek, I., Dempster, M. & Hanna, D. (2008a). International issues in education. *Psychology Teaching Review, 14*(2), 65–74.