

Bullying and victimization of primary school children in England and Germany: Prevalence and school factors

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Differences in definitions and methodologies for assessing bullying in primary school children between countries have precluded direct comparisons of prevalence rates and school factors related to bullying. A total of 2377 children in England (6-year-olds/Year 2: 1072; 8-year-olds/Year 4: 1305) and 1538 in Germany (8-year-olds/Year 2) were questioned individually using an identical standard interview. In both countries the types of bullying to victimize others were similar: boys were most often perpetrators, most bullies were also victims (bully/victims), most bullying occurred in playgrounds and the classroom, and SES and ethnicity only showed weak associations with bullying behaviour. Major differences were found in victimization rates with 24% of English pupils becoming victims every week compared with only 8% in Germany. In contrast, fewer boys in England engaged every week in bullying (2.5–4.5%) than German boys (7.5%), while no differences were found between girls. In England, children in smaller classes were more often victimized. Further study of the group of bully/victims, schooling differences in England vs. Germany and implications for prevention of bullying are discussed.

Bullying has attracted a great deal of both research and media interest in most industrialized countries (Smith *et al.*, 1999) since the first systematic description and study of the phenomenon in Sweden by Heinemann (1972) and Olweus (1978; originally published 1973 in Swedish). As defined by Olweus (1991, 1999, p. 10), 'a student is being bullied or victimised when he or she is exposed *repeatedly and over time to negative action* on the part of one or more other students'. The negative behaviour has to be

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intentional, to cause harm to the victim (Farrington, 1993; Smith & Thompson, 1991). It can be physical (hitting, kicking, pinching, taking money or belongings etc.), verbal (name-calling, cruel teasing, taunting, threatening etc.) or, as recently described, psychological (social exclusion, isolation, malicious gossip etc.) (Björkqvist, Lagerspetz, & Kaukiainen, 1992; Crick & Grotpeter, 1995; Wolke & Stanford, 1999). Bullying must be a *repeated action* and *occur regularly over time*. Thus, occasional negative behaviours or conflict are not viewed as victimization. For behaviour to qualify as bullying, there should also be a real or perceived *imbalance in strength* (asymmetric power relationship) that can be characterized by physical or mental behaviours. Therefore, it is not bullying when there is conflict between two persons of the same physical or mental strength (Smith *et al.*, 1999).

Using this definition, a number of surveys have been carried out in England, Europe, North America and the Pacific rim countries such as Japan, Australia and New Zealand (Smith *et al.*, 1999). Most of these studies used adapted versions of the original Olweus (1978) self-report bullying questionnaire. Only a few studies have used alternative methods such as individual interviews with children (Baldry, 1998; Boulton, 1993; Boulton & Smith, 1994), peer nomination (Boulton & Smith, 1994; Neary & Joseph, 1994; Schuster, 1997; Schwartz, Dodge, Pettit, & Bates, 1997) or direct observation of victimization and bullying (Atlas & Pepler, 1998; Boulton, 1993; Pepler & Craig, 1995; Pepler, Craig, & Roberts, 1998). Furthermore, the majority of studies have focused on children older than 7 years old and secondary school children (e.g. Ahmad & Smith, 1990; Genta, Menesini, Fonzi, Costabile, & Smith, 1995; Hirano, 1992; Junger, 1990; Lagerspetz, Björkqvist, Berts, & King, 1982; Mellor, 1999; Olweus, 1984; Whitney & Smith, 1993; Yates & Smith, 1989). The surveys of primary and young secondary school children (age group 8–12 years) within and between countries have yielded considerable variations in the prevalence of victimization ranging from 8% to 46%, and bullying ranging from as little as 3% to 23% (Baldry, 1998; Bentley & Li, 1995; Boulton & Smith, 1994; Boulton & Underwood, 1992; Byrne, 1994; Gasteiger-Klicpera & Klicpera, 1997; Genta *et al.*, 1996; Hanewinkel & Knaack, 1997; Harachi, Catalano, & Hawkins, 1999; Hirano, 1992; Kumpulainen *et al.*, 1998; Menesini *et al.*, 1997; Mooij, 1992; Morita, Soeda, Soeda, & Taki, 1999; Olweus, 1999; O'Moore & Hillery, 1989; O'Moore, Kirkham, & Smith, 1997; Pereira *et al.*, 1996; Perry, Kusel, & Perry, 1988; Vettenburg, 1999; Whitney & Smith, 1993).

Because of variations in instruments employed in different countries, it is difficult to decide whether the differences in prevalence are real or an artifact. First, the statistical power varies greatly with sample sizes ranging from 158 (Boulton & Smith, 1994) to over 15 000 (Olweus, 1999) in this age group. Secondly, the definitions for victimization and bullying vary greatly between studies ranging from three or more times per term (e.g. Pereira *et al.*, 1996) to now and then or more (Olweus, 1999); sometimes or more (e.g. Baldry, 1998; Boulton & Underwood, 1992; Kumpulainen *et al.*, 1998) to once a week or more (e.g. O'Moore & Hillery, 1989; Vettenburg, 1999; Whitney & Smith, 1993). Thirdly, while in the English language 'bullying' is used colloquially, the same term with the same meaning does not exist in other languages. Thus translations vary between countries including 'mobbing' in Swedish (Olweus, 1999), 'Ijime' in Japanese (Morita *et al.*, 1999) or 'Schikanieren' in German (Lösel & Bliesener, 1999). It is unclear whether these different translations transfer the same meaning in different languages. For

example, in the German language 'Schikanieren' is rarely used colloquially by children to denote being beaten or threatened. The use of precise descriptions of behaviour rather than using the term 'bullying' may avoid confounding colloquial with the scientific definition and different meanings between languages.

Additionally, the school systems vary considerably between countries. For example, children enter full-time primary education by 5 years in England, while in Scandinavia formal schooling starts at 7 years of age (Olweus, 1999) and in central European countries such as Germany (Lösel & Bliesener, 1999) or the Netherlands (Junger-Tas, 1999) children are 6 or 7 years old when they enter formal education. Thus, at a given age (e.g. 8 years) the length of schooling experience is quite different between countries. Moreover, asking 7-year-olds in Scandinavia or central Europe to complete questionnaires may be highly unreliable, as the children are just starting to learn to read. Variation in reading abilities and comprehension of read information also varies largely in English primary schools (Hurry, 1999) and may also be a source of error in self-report questionnaires in this young age group. This is a likely reason for the lack of studies of young children reported in the literature.

To transfer policies on prevention and how to deal with victimization and bullying in individual countries, it is important to know whether the type of bullying (e.g. direct physical such as beating, threatening, or direct verbal such as name-calling), the location where bullying takes place (on the way to school, playground), the gender and origin of the perpetrators (e.g. same class, parallel classes, higher or lower) is cross-culturally comparable. Furthermore, how often do the children tell their teachers or parents and which factors of the schools such as location (rural/urban), school and class size, ethnic mix and socio-economic status (SES) are associated with victimization and bullying? If associations of these factors with bullying and victimization vary between countries and school systems, then anti-bullying policies and interventions need to be tailored individually (Sharp & Smith, 1994) rather than being based on universal approaches (e.g. Olweus, 1993).

Some cross-cultural similarities and differences have been reported. Name-calling is cross-culturally the most frequent act of bullying in 8- to 12-year-olds in different countries (Baldry, 1998; Bentley & Li, 1995; Genta *et al.*, 1996; O'Moore *et al.*, 1997; Vettenburg, 1999; Whitney & Smith, 1993), although beating and kicking were more frequent in Portugal (Pereira *et al.*, 1996). Most victimization takes place in either the playground or the classroom (Genta *et al.*, 1996; Olweus, 1993; O'Moore *et al.*, 1997; Pereira *et al.*, 1996; Whitney & Smith, 1993) while there is some variation regarding the amount of bullying carried out in corridors ranging from 28% in Italy (Baldry, 1998) to as little as 7% in Ireland (O'Moore *et al.*, 1997). Victimization on the way to and from school has rarely been investigated and in English-speaking samples varies from 8% (O'Moore *et al.*, 1997) to 14% sometimes or more often (Whitney & Smith, 1993). Children in the same class are the most likely perpetrators; however, in Portugal older children are equally likely to bully younger children as their age peers (Pereira *et al.*, 1996). Universally, boys have been found to be more often perpetrators of bullying (e.g. Olweus, 1993; Whitney & Smith, 1993). Yet there are significant variations in whether girls engage in bullying mostly together with boys or on their own (e.g. Baldry, 1998; Boulton & Underwood, 1992; Genta *et al.*, 1996; O'Moore *et al.*, 1997). There is a lack of reports for primary school children on whether children tell their teachers or parents.

Most young children in England or Canada tell their parents about being victimized, while only about half of the children tell their teachers (Bentley & Li, 1995; Whitney & Smith, 1993).

The effects of school factors on bullying behaviour in primary school children has rarely been investigated. Studies with secondary school children reviewed here reported contradictory findings. No significant effects of class sizes on bullying rates have been reported for Finland (Lagerspetz *et al.*, 1982), Scotland (Mellor, 1999) or Norway (Olweus, 1994). In contrast, O'Moore *et al.* (1997) found more bullying in smaller schools in Ireland, while Stephenson and Smith (1989) found more bullying in larger schools in Cleveland, England, and Whitney and Smith (1993) reported no effects of school size on bullying rates in Sheffield, England. Similarly, O'Moore *et al.* (1997) reported more bullying in smaller classes in secondary schools. Stephenson and Smith (1989) found more bullying in larger classes, while no relationship to class size was reported in Sheffield (Whitney & Smith, 1993) or Norway (Olweus, 1994). Children in schools with a high proportion of low SES children were found to become victims more often in British and Irish schools (O'Moore *et al.*, 1997; Stephenson & Smith, 1989; Whitney & Smith, 1993), while no such relationship to SES was reported in New Zealand (Lind & Maxwell, 1996), Scotland (Mellor, 1989) or Scandinavia (Olweus, 1994). Studies that considered the ethnicity of children or ethnic mix of the schools found no significant relationship between ethnic minority status and bullying rates in different countries (Boulton, 1995; Junger, 1990; Moran, Smith, Thompson, & Whitney, 1993; Siann, Callaghan, Lockhart, & Rawson, 1993; Whitney & Smith, 1993). Generally, no significant effects of community size on bullying rates have been found (Lagerspetz *et al.*, 1982; Lind & Maxwell, 1996; Mellor, 1999), although in Ireland children in urban areas tended to be victims of bullying (O'Moore *et al.*, 1997). There is thus considerable uncertainty whether school factors in different countries or communities are related to bullying.

Finally, children have predominantly been classified as bullies, victims or not involved in either bullying or victimization. The findings reviewed so far are based on this dichotomy, which appears to be an oversimplification. A sizeable group of children cannot be classified simply as bullies or as victims, but both bully other children and become victimized. These children have been labelled bully/victims (Boulton & Smith, 1994; Bowers, Smith, & Binney, 1994; Gasteiger-Klicpera & Klicpera, 1997; Stephenson & Smith, 1989; Sutton & Smith, 1999). In earlier research these children were assumed to be only a small group, and have been described as provocative victims (Olweus, 1978, 1984, 1993; Pikas, 1989), aggressive victims (Schartz *et al.*, 1997) or most recently as reactive/proactive aggressors (Vitaro, Gendreau, Tremblay, & Olinny, 1998). A recent review indicated that the characteristics, social cognitions and behaviours of bullies, victims and bully/victims may differ considerably (Wolke & Stanford, 1999). Thus a distinction between those who either just bully or become victimized and those who both bully and become victimized is important, but the rate of bully/victims is largely unknown (Sutton & Smith, 1999).

The aims of this interview-based study were twofold. First, are there differences in the prevalence and characteristics of bullying and victimization experienced in English and German primary school children? Secondly, what is the relationship of school factors to bullying and victimization in England and Germany?

Method

Design

A cross-sectional, cross-national comparison design was used between English and German primary school children stratified according to class and age, respectively. Both class level and age were considered because of differences in school entry age between England and Germany. Children in Year 2 in Germany are roughly at the same age as children in Year 4 in England, but have the same duration of schooling as children in Year 2 in England. To allow for comparison according to duration of schooling and age, Year 2 children in Germany were compared to Year 2 and Year 4 primary schoolchildren in England.

Sample

There were 2377 children (Year 2: 1072; Year 4: 1305) in the English sample recruited in Hertfordshire and North London primary schools. The German sample consisted of 1538 children (all at the end of Year 2) from primary schools in Munich and Augsburg and surrounding rural areas. There were no differences regarding the gender distribution, the social class distribution of participating children and the number of children who went to urban (inhabitants of community > 50 000) or rural (inhabitants of community < 50 000) schools between the samples (see Table 1). There was by design a significant difference in the age of Year 2 children in the two countries with English children being on average 6.7 years compared with 8.1 years in Germany (see Table 1). There was also a significant, 2-month difference between English Year 4 (8.3 yrs) and German Year 2 (8.1 yrs) children. German classes had a higher relative frequency of ethnic minority children than English classes investigated (see Table 1). Of children in the German classes, 21% were non-central European Caucasians with the largest group of children born to Turkish parents. Of children in the English sample, 10% were non-English/Irish Caucasian and within this group were predominantly black children (Indian subcontinent: 5.1%; mixed race: 2.5%; Afro-Caribbean: 1.6%).

A highly significant difference was found in the participation rate of schools between the two regions. While in Germany all 67 schools approached consented to take part (100%), only 39 of 127 schools (31%) approached in England did so (see Table 1). In contrast, the non-consent rate for children of participating classes was higher in Germany (10.8%) compared to England (4.1%; see Table 1). A further 4.9% were absent from school during the days interviews took place in England and 3.7% in Germany (n.s.). The overall participation rate was 91% in England and 85.4% in Germany of all potential children in the target classes (see Table 1). The school and class sizes differed significantly between the countries. The primary schools were significantly smaller in England (average number of pupils in England: 246, in Germany: 374) and there was less variability in size between schools in England (see Table 1). In contrast, the class sizes were significantly larger in England (average pupils per class in England: 28; in Germany: 24).

Procedure

Study consent. Ethical permission for the English part of the study was granted by the Ethical Committee of the University of Hertfordshire. Hertfordshire County Council Education Department was informed about the study and a copy of all instruments used was sent there. Ethical permission for the German part was obtained from the Ministry of Education, Bavaria.

The schools in both countries were approached in writing and the study aims and procedures explained to headteachers and class teachers in both countries. The letter to the English children also included information about the study for school governors. Following consent by the headteacher and teachers, each child in the selected classes was given a sealed letter for his or her parents explaining the aims and procedures of the study. In Germany, all parents were asked to sign a consent form before participation of their child. In England, a non-consent form was utilized (i.e. the parents only returned the non-consent form if they did not want their child to take part).

Instruments: interview. Children were interviewed individually in a quiet, private room within the school using a standard structured interview. The children were first asked some open questions about the family

Table 1. Sample data for England and Germany

	UK	Germany	Test, <i>p</i> -values
Total number of schools approached	127	67	
Total number of schools agreed to take part	39 (31%)***	67 (100%)	
Total sample size (N)	2377	1538	
Boys: <i>N</i> (%)	1204 (50.7)	793 (52.0)	
Girls: <i>N</i> (%)	1173 (49.3)	745 (48.0)	
Year 2: <i>N</i> , <i>M</i> age (SD)	1072 6.71 (.56)	NA	
Year 4: <i>N</i> , <i>M</i> age (SD)	1305 8.32 (.58)***	NA	$t = 9.37, p < .000$
German: <i>N</i> , <i>M</i> age (SD)	NA	1538, 8.11 (0.61)	
Ethnicity %	9.9***	21.0	
Participation %	91.0***	85.4	$t = -3.60, p < .000$
Non-consent %	4.1***	10.8	$t = 4.47, p < .000$
Absenteeism %	4.9	3.7	
Mean school size: <i>M</i> (SD)	246 (87.43)**** ^a	374 (185.22) ^b	$t = 4.07, p < .000$
Mean H class size: <i>M</i> (SD)	28 (3.4)***	24 (3.8)	$t = -7.34, p < .000$
Social class %			
Upper	7.5	16.4	
Middle	47.5	58.2	
Lower	45.0	25.4	
Urban/rural %			
Urban	44.0 ^c	60.5	
Rural	56.0	36.8	

* = $p < .05$; ** = $p < .01$; *** = $p < .001$.

^a Information regarding school size, class size and social class was obtained from school records.

^b Information regarding school size, class size and social class and urban/rural status were obtained from the Bavarian Office of Statistics.

^c Information regarding urban/rural status (Hertfordshire) was obtained from <http://hertslib.hertscc.gov.uk/index.htm>.

and school to make them feel at ease. This was followed by standard questions about friendships and social relationships in school (not reported here). The part of the interview subject to this report was adapted from the Olweus (1991) Bullying Questionnaire. First, children were asked whether they had experienced any of six behaviours in the last six months that had upset them: (1) having been called bad or nasty names; (2) having belongings taken; (3) having lies told about them; (4) having nasty tricks played on them; (5) having been threatened or blackmailed; and (6) having been hit or beaten up. If the child answered that he or she had experienced any of these behaviours, the child was asked to give examples and describe how this happened. This was done first to ascertain that the behaviours experienced were carried out with intent by the perpetrator(s) to upset or hurt (real or perceived imbalance in strength) the child rather than having occurred by accident or during play fighting, and secondly to make certain that the child was unable to defend him- or herself. Those children who had experienced one or more of these behaviours were asked how frequently these incidents happened in the last six months (seldom: 1–3 times during past six months; frequently: 4 times or more during past six months; very frequently: at least once per week). To aid children's reference to approximately six-month periods, anchors such as 'since last Christmas', 'since the summer holidays' etc. were used. The children were further asked whether these behaviours took place (playground, corridor, classroom, on way to/from school, other areas such as toilets, changing rooms), which class the perpetrator usually came from (own class, parallel class, higher class, lower class, other school), who the perpetrators were (boys, girls, boys and girls together), whether they told the teacher, and whether they told their parents. The six behaviours were then repeated and the child asked whether they had used these behaviours to upset other children and how often they had done this over the last six months (never or seldom; 1–3 times during past six months; frequently: 4 times or more during past six months; very frequently: at least once per week).

The interviews were identical in Germany and England. This was ensured by translation and back translation from German into English and vice versa. At no time in either the German or English version of

the interview was the term 'bullying' used (i.e. only behavioural (operational) descriptions were used in both languages).

The interviews in Germany were carried out by three interviewers and the interviews in England by four interviewers, all psychologists at postgraduate level.

Statistical analyses

Chi-square comparisons were carried out by Year 2/Year 4 and by gender in the form of categorical cross tabulations for the English data and by gender for the German data of victimization (frequent, very frequent) and bullying (frequent, very frequent). English and German data were compared using chi-square, including the two English age groups in England, and were repeated for boys and girls separately. For the analysis of the impact of school or class size on rates of victimization and bullying, proportions of victims or bullies per school or class were computed and rank correlated (Spearman's rank correlation) with class or school size, respectively, as proposed by Whitney and Smith (1993). Logistic regression analyses were carried out for both samples combined to determine the relative importance of cross-cultural differences and demographic variables for predicting victimization and bullying (see results for model used). Pure bullying (B), pure victimization (V) and involvement in bullying and victimization (B/V) were depicted as follows: B bullies others frequently or very frequently and gets victimized seldom/not at all; V becomes a victim frequently or very frequently and bullies seldom or not at all; and B/V bullies and becomes a victim frequently or very frequently. Neutral children are seldom or not at all bullies or victims.

Results

Results are presented in two main sections. In the first section, differences in bullying involvement between England and Germany are reported. In the second, relationships of bullying behaviour to school and social factors are presented.

Bullying behaviour in England and Germany

Frequency of victimization and bullying. The frequency of victimization in England and Germany by age and gender is shown in Table 2. More children in England reported being victims of bullying behaviour compared to children in Germany ($\chi^2(4,3855) = 268.3, p < .000$). Three times as many English children became victims every week (very frequently: Year 2 = 24.3%; Year 4 = 24.7%; Germany = 7.8%—see Table 2). These highly significant differences were found for both boys ($\chi^2(4,1960) = 166.7, p < .000$) and girls ($\chi^2(4,1895) = 107.4, p < .000$) between countries, although the difference was slightly more pronounced for boys. There were no differences in victimization within the English sample according to school experience (Year 2; Year 4—see Table 2).

Sex differences within countries for the frequency of victimization were significant for the English sample only ($\chi^2(2,2376) = 29.3, p < .000$) where more boys reported being very frequently victimized than girls (boys = 28.1%, girls = 20.8%).

A different picture emerged when England and German children were compared by age and gender regarding whether they reported bullying other children (see Table 2). More German children reported bullying others, in particular, very frequently, compared with English children ($\chi^2(4,3853) = 32.4, p < .000$). The difference in bullying was larger when German Year 2 children were compared to the younger English children (Year 2) than same-aged English children. Of the children, 1.9% of English Year 2, 2.9% of English Year 4 and 4.8% of the German sample were very frequently perpetrators of

bullying. This difference between countries was, however, only confined to boys ($\chi^2(4, 1958) = 32.2, p < .000$; see Table 2). In contrast, girls in England and Germany did not differ in how often they bullied others.

Gender differences emerged for both England and Germany for reported bullying others (England: $\chi^2(2, 2374) = 51.3, p < .000$; Germany: $\chi^2(2, 1479) = 75.9, p < .000$). In both countries, boys reported bullying others frequently and very frequently more often than girls did (see Table 2).

Table 2. Percentages of pupils victimized and pupils who bully others overall and by gender

	England		Germany
	Year 2 (N = 1072)	Year 4 (N = 1303–1305)	Year 2 (N = 1479)
Victimization			
Overall***			
Never/seldom	45.3	46.3	70.9
Frequently	30.4	29.0	21.2
Very frequently	24.3	24.7	7.8
Boys***			
Never/seldom	40.2	41.0	68.0
Frequently	32.8	29.9	23.5
Very frequently	27.0	29.0	8.5
Girls***			
Never/seldom	50.8	51.4	74.0
Frequently	27.9	28.2	18.8
Very frequently	21.3	20.4	7.2
Bully others			
Overall***			
Never/seldom	86.0	81.0	78.1
Frequently	12.1	16.0	17.1
Very frequently	1.9	2.9	4.8
Boys***			
Never/seldom	81.6	74.8	69.1
Frequently	15.9	20.7	23.4
Very frequently	2.5	4.5	7.5
Girls			
Never/seldom	90.7	87.2	87.5
Frequently	8.1	11.4	10.5
Very frequently	1.2	1.4	1.9

*** $p < .001$.

Bully, victim, bully/victim and neutrals. A highly significant difference in group membership was found between countries $\chi^2(6, 3853) = 312.7, p < .000$. As shown in Table 3, English children were much more likely to be involved in some form of bullying behaviour (i.e. not to be neutral) than German children. Overall, while English children were up to half as likely to be bullies than German children, they were more than three

times more likely to be victims of bullying. There were few differences, in particular between the same-aged German (Year 2) and English (Year 4) children, of how often they both bullied and became victimized (bully/victim). Both in Germany and England, most of those who were perpetrators of bullying were bully/victims.

Table 3. Classification of children into bullies, victims, bully/victims and neutrals (not involved in bullying behaviour) overall and by gender

	England		Germany
	Year 2 (N = 1072)	Year 4 (N = 1303–1305)	Year 2 (N = 1479)
Bully/victim groups			
Overall***			
Bully	3.9	5.1	8.9
Victim	44.6	39.9	16.0
Bully/victim	10.1	13.9	13.0
Neutral	41.4	41.1	62.1
Boys***			
Bully	4.9	7.3	12.5
Victim	46.3	41.2	13.6
Bully/victim	13.5	18.0	18.4
Neutral	35.3	33.6	55.5
Girls***			
Bully	2.9	2.9	5.0
Victim	42.8	38.7	18.6
Bully/victim	6.4	9.9	7.5
Neutral	47.9	48.6	69.0

*** $p < .001$.

This held true for the English sample even when only those who bullied very frequently (once or several times per week) were considered. Of the children, 1% (23/2373) were pure bullies, 1.5% (35/2373) were bully/victims and 23% (547/2374) were pure victims. In the German sample, there were slightly more pure bullies (2.7%; 40/1479) than bully/victims (2.1%; 31/1479) and 5.7% (85/1479) were pure victims.

When analysed separately by gender, the differences between the English and German sample remained (boys: $\chi^2(6,1958) = 210.5$, $p < .000$; girls: $\chi^2(6,1895) = 112.8$, $p < .000$). More boys were found to be bullies only or bully/victims than girls, in both England and Germany. The boys to girls ratio for bullies was 2.3:1, and the boys to girls ratio for bully/victims was 2.1:1. There were no gender differences in pure victims between boys and girls in England (boys = 43.6%; girls = 40.5%), while more boys were pure victims within the German sample (boys = 13.6%; girls = 8.6%).

Whether analysed overall or by gender separately, there were some statistically significant differences according to school experience within the English sample (see Table 3). The younger (Year 2) English children were more likely to be victims and less likely to be bullies or bully/victims than Year 4 children.

Significant gender differences were found for bullies only and bully/victims in England

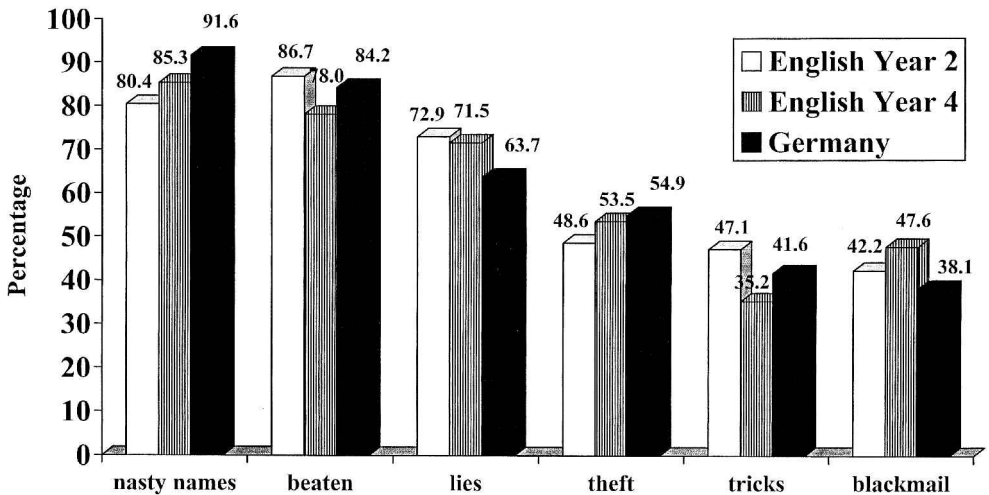


Figure 1. Percentages for types of victimization experienced by English and German primary school children.

and in the German sample. More boys were assigned bully only and bully/victim status than girls (England: $\chi^2(3, 2374) = 70.641, p < .000$; Germany: $\chi^2(3, 1479) = 73.903, p < .000$).

Types of victimization experienced by English and German primary school children. For those children who had experienced frequent or very frequent victimization (victims or bully/victims), a comparison was made for whether there were any differences between England (Year 2 $N = 586$; Year 4; $N = 701$) and Germany ($N = 430$) regarding types of bullying behaviours experienced. There was little difference in the relative rank order of behaviours experienced most often between countries, with either being called nasty names or being beaten the most frequently experienced, followed by spreading nasty lies, theft, nasty tricks and being threatened or blackmailed (see Fig. 1). Despite overall similarities, there were statistically significant but generally subtle differences between the English and German children and according to schooling experience within the English sample.

English children overall reported have more lies spread about them than German children ($\chi^2(2, 1717) = 11.1, p < .01$). English Year 2 children reported having more nasty tricks played on them compared to English Year 4 children and German children ($\chi^2(2, 1717) = 18.7, p < .000$). In contrast, English Year 4 children reported being blackmailed/threatened the most compared to English Year 2 and German children ($\chi^2(2, 3856) = 65.3, p < .006$). German and English Year 2 children reported being hit/beaten up more than English Year 4 children ($\chi^2(2, 1717) = 17.7, p < .000$); and German children reported being called bad/nasty names more often in comparison to English Year 2 and Year 4 children ($\chi^2(2, 1717) = 24.9, p < .000$). There were no sex differences in either English or German children.

Any differences in victimization rates between English and German pupils were also not accounted for by differences in the variety of aggressive acts children experienced in

the two countries. Of the six behaviours of victimization probed in the interview, English and German children experienced a median of three different aggressive acts. In the English sample, 20.3% of all children were victimized at least once in the last half year by five or all six types of aggressive behaviours; in Germany the figure is 17.6%.

Location of bullying. The most popular cited location for being bullied in both countries was the playground (see Table 4); the second favoured location was the classroom. The frequencies were very similar between England and Germany. However, two differences emerged between the countries. More German children reported being bullied on the way to and from school than English children ($\chi^2(2, 1717) = 252.5, p < .000$) and in the corridors ($\chi^2(2, 1717) = 55.5, p < .000$).

Table 4. Locations for victimization, age and gender of perpetrator(s) for English and German children who were victimized (victims or bully/victims)

	England		Germany
	Year 2 (N = 583–586)	Year 4 (N = 701)	Year 2 (N = 430)
Location of victimization ^a			
Classroom	29.7	33.8	26.3
Corridor***	1.0	1.3	8.1
Playground	93.9	92.2	92.1
Way to/from school***	2.0	3.1	27.9
Age of perpetrator ^a			
Own class	80.0	79.0	76.5
Older class***	32.8	38.1	53.7
Younger class	19.5	13.7	15.6
Parallel class***	9.9	16.1	26.3
Gender perpetrator			
Overall***			
Boys	54.2	53.5	49.5
Girls	8.6	11.4	3.3
Boys & girls	37.2	35.1	47.2
Boys***			
Boys	61.8	68.6	51.2
Girls	5.5	2.6	3.7
Boys & girls	32.7	28.8	45.0
Girls***			
Boys	44.3	35.4	47.3
Girls	12.6	21.9	2.7
Boys & girls	43.1	42.6	50.0

* $p < .05$; ** $p < .01$; *** $p < .001$.

^a Pupils could give multiple answers.

Significantly more girls than boys reported being bullied in the classroom in England ($\chi^2(1, 1287) = 14.8, p < .000$; girls = 37.5%, boys = 27.5%). No sex differences were found in Germany for the location of bullying.

Characteristics of perpetrators. Significantly more German children reported being bullied by older children ($\chi^2(2, 1717) = 47.5, p < .000$) and by children from parallel classes compared to English children ($\chi^2(2, 1717) = 48.4, p < .000$). The most prevalent age group to be bullied by in both England and Germany was their age peers from the same class. Few children reported being bullied by children from classes beneath them (i.e. younger children; see Table 4).

Significantly more German boys reported being bullied by parallel classes than German girls ($\chi^2(1, 430) = 8.8, p < .003$; boys = 31.8%, girls = 19.1%). No significant gender differences were revealed in England.

Significant differences were reported regarding the gender of perpetrators of bullying behaviour ($\chi^2(4, 1714) = 33.0, p < .000$). Overall, more English children described being bullied by 'girls only' compared to German children, whereas German children reported being bullied by both boys and girls more than English children. The most commonly reported perpetrators were 'boys only' (see Table 4).

When gender was taken into account, significant differences between the gender of the perpetrators remained for both boys ($\chi^2(4, 954) = 22.7, p < .000$) and girls ($\chi^2(4, 760) = 38.3, p < .000$). 'Boys only' as perpetrators were most commonly cited for boys in both countries followed by 'boys and girls'. Nevertheless, there was a highly significant difference between England and Germany regarding 'boys only' and 'boys and girls' as perpetrators. More German than English boys reported the perpetrator to be 'boys and girls' and fewer German boys cited 'boys only' as being the perpetrators compared to England (see Table 4). Substantially more girls in England, particularly in Year 4, reported being bullied by 'girls only' compared with German girls. Fewer English Year 4 girls reported being bullied by 'boys only' compared with English Year 2 children and German children. German girls reported being bullied by both 'boys and girls' most frequently (see Table 4).

Significant gender differences in England but not Germany were found regarding the perpetrator of bullying ($\chi^2(2, 1284) = 113.8, p < .000$). More boys in England were bullied by 'boys only' than girls (boys = 65.4%, girls = 39.3%), more English girls reported being bullied by 'girls only' compared to boys (boys = 3.9%, girls = 17.8%) and more English girls reported being bullied by both 'boys and girls' than boys (boys = 30.6%, girls = 42.8%).

Disclosure of victimization. Significant differences concerning disclosure to teachers were found for the children who were victimized frequently or very frequently (victims, bully/victims; $\chi^2(6, 1714) = 216.8, p < .000$). A greater proportion of German compared to English children reported that they 'never' told the teacher about being victimized, and only 9.8% of German children 'always' told the teacher about being a victim of bullying compared to 51.3% of Year 2 and 35.7% of Year 4 English children (see Table 5).

The differences remained when analysed by gender separately (boys: $\chi^2(6, 954) = 127.1, p < .000$; girls: $\chi^2(6, 760) = 95.2, p < .000$). There were no significant differences in how often girls or boys told the teacher within the German and English sample. However, girls were more likely to tell the teacher 'always' more often than boys and less likely to 'never' tell the teacher (see Table 5). Stark differences were found between German and English children in the frequency of how often they told their parents

Table 5. Relative frequencies of disclosure of victimization to teacher or parents by English and German frequently/very frequently victimized primary school children

	England		Germany
	Year 2 (N = 583)	Year 4 (N = 701)	Year 2 (N = 430)
Tell teacher			
Overall***			
Never	11.8	17.8	24.4
Sometimes	24.5	32.1	34.0
Most of the time	12.3	14.4	31.9
Always	51.3	35.7	9.8
Boys***			
Never	15.2	19.4	26.9
Sometimes	25.8	33.2	32.2
Most of the time	10.6	13.9	32.6
Always	48.5	33.5	8.3
Girls***			
Never	7.5	16.0	21.3
Sometimes	22.9	30.7	36.2
Most of the time	14.6	15.0	30.9
Always	54.9	38.2	11.7
Tell parents			
Overall***			
Never	20.2	19.0	13.5
Sometimes	18.4	16.3	20.9
Most of the time	8.2	7.3	37.7
Always	53.2	57.5	27.9
Boys***			
Never	27.0	24.1	18.6
Sometimes	17.9	16.8	23.6
Most of the time	8.5	7.6	31.4
Always	46.7	51.6	26.4
Girls***			
Never	11.5	12.9	6.9
Sometimes	19.0	15.7	17.6
Most of the time	7.9	6.9	45.7
Always	61.7	64.6	29.8

*** $p < .001$.

($\chi^2(6, 1714) = 252.0, p < .000$). In particular, more English children told their parents 'always' compared with German children. However, if one combined the categories 'most of the time' and 'always', the differences between England and Germany disappeared and there were fewer German children who 'never' told their parents.

Significant differences between England and Germany remained when analysed by gender (boys: $\chi^2(6, 954) = 101.8, p < .000$; girls: $\chi^2(6, 760) = 158.0, p < .000$). There were, however, significant gender differences, both in the English and German sample (England: $\chi^2(3, 1284) = 39.6, p < .000$; Germany: $\chi^2(3, 430) = 18.7, p < .000$). Boys

were more likely to 'never' tell their parents about being bullied compared to girls, and more girls than boys 'always' told their parents about being bullied (see Table 5).

School and social factors

School factors related to bullying in English and German primary schools. Comparisons between English and German schools had shown (see Table 1) that English schools were smaller and had more pupils per class than in the German schools studied.

According to the approach described by Whitney and Smith (1993), the proportion of children who were victimized or bullied others were computed for each participating school and each participating class. These proportions were then rank correlated with the school or class size for the English and German sample separately. To allow comparison with the Whitney and Smith study, the proportion of victims or bullies per school or class were additionally computed using the more stringent criterion of 'very frequent' victimization or bullying (once or several times per week) and correlated with school and class size, respectively.

Neither school nor class size correlated with victim or bully proportions in the German sample (see Table 6). In contrast, within the English sample, the proportion of pupils who were victimized increased with decreasing class size (Spearman's $r = -.23$, $p < .05$; every week victimized: Spearman's $r = -.44$; $p < .001$). A similar trend was also found for school size; however, this correlation failed to reach statistical significance (see Table 6).

Table 6. Spearman rank correlations between school or class size with proportion of victims or bullies per school or class

	Frequent & very frequent victimization	Very frequent victimization	Frequently & very frequently bullies others	Very frequently bullies others
German sample				
School size ($N = 64$)	.09	.01	.14	.07
Class size ($N = 74$)	.07	.02	.06	.04
English sample				
School size ($N = 39$)	-.25	-.23	.01	-.21
Class size ($N = 92$)	-.23*	-.44***	.05	-.04

* $p < .05$; *** $p < .001$.

Country, demographic factors and bullying behaviour. Logistic regression analyses were carried out to determine the best combination of factors predicting bullying others or being victimized. The dichotomized dependent variables were (a) bullying others vs. not bullying others; and (b) being a victim vs. not a victim of bullying. The independent variables were dichotomized as follows: (1) country: England vs. Germany; (2) ethnic origin: native German/English vs. non-German/English Caucasian; (3) SES: upper vs. middle/lower; (4) location: urban vs. rural; (5) gender: boys vs. girls; and (6) age: age 7 and under vs. older than 7 years. For the two logistic regression analyses, school and class

sizes could not be considered as they could not vary according to the individual (e.g. all children in the same school come from a school with the same school size).

First, a full model was built forcing all six independent variables in the prediction function and then removing those variables (backwards stepping), which did not make a significant contribution to the model (no significant change in fit when removing variables).

Bullying others. The final model for predicting bullying others is shown in Table 7 ($\chi^2(4) = 159.3, p < .000$). Factors that had a significant impact on whether children bullied others were in order of importance: gender (odds ratio = 2.59, CI (95%) = 2.17–3.08), age (odds ratio = .69, CI (95%) = .56–.84), country (odds ratio = .78, CI (95%) = .65–.93), and finally SES (odds ratio = .72, CI (95%) = .54–.96). Factors that did not remain in the final model were ethnic origin and location. Those who bully are boys rather than girls, children who are older than 7 years, more frequently children in Germany than in England and pupils of low/middle SES.

Table 7. Final logistic regression model of demographic factors related to bullying others (backward stepwise method)

Variable	Wald	d.f.	Sig.	Exp (B) (odds ratio)	95% CI for Exp (B)	
					Lower	Upper
SES	5.0864	1	.0241	.72	.54	.96
Gender	114.8282	1	.0000	2.59	2.17	3.08
German/English	7.444	1	.0064	.78	.65	.93
Age	13.7884	1	.0002	.69	.56	.84
Constant	374.0227	1	.0000			

Notes: Model $\chi^2 = 159.281$; d.f. = 4; $p < .0000$; $N = 3853$.

Victims of bullying. The final logistic regression model for predicting victimization is shown in Table 8 ($\chi^2(5) = 293.3, p < .000$). Factors that predicted whether children became victims were in order of importance: country (odds ratio = 2.82, CI (95%) = 2.44–3.26), gender (odds ratio = 1.47, CI (95%) = 1.28–1.67), location (odds ratio = .76, CI (95%) = .66–.87), ethnic origin (odds ratio = .78, CI (95%) = .64–.95) and SES (odds ratio = .79, CI (95%) = .63–.98). One factor, age, did not remain in the final model. Children in England as opposed to Germany, boys rather than girls, children living in rural as opposed to urban areas, ethnic minority rather than native English/German children and children of low/middle SES were more likely to become victims of bullying.

Discussion

This study compared victimization and bullying rates, and factors related to bullying behaviour, in south Germany and south England. There were a number of similarities found across the two countries: (1) boys were victims of bullying and perpetrators of bullying more frequently than girls; (2) most bullying occurs in the playground or the

Table 8. Final logistic regression model of demographic factors related to victimization (backward stepwise method)

Variable	Wald	d.f.	Sig.	Exp (B) (odds ratio)	95% CI for Exp (B)	
					Lower	Upper
Ethnic origin	6.1736	1	.0130	.78	.64	.95
SES	4.5292	1	.0333	.79	.63	.98
Location	15.9134	1	.0001	.76	.66	.87
Gender	32.0309	1	.0000	1.47	1.28	1.67
German/English	198.1730	1	.0000	2.82	2.44	3.26
Constant	36.0080	1	.0000			

Notes: Model $\chi^2 = 293.322$; d.f. = 5; $p < .0000$; $N = 3853$.

classroom, which are both potentially supervisable areas, in both countries; (3) similar types of bullying acts are experienced by children in England and Germany with calling nasty names and being beaten the most popular choices of bullies; (4) many children who bully others also become victims of bullying at other times (bully/victims); and (5) socio-economic status and ethnicity show only a weak relationship with bullying behaviour in both countries.

The findings that boys are more involved in direct or physical bullying than girls, that most bullying occurs in the playground or the classroom and that calling children nasty names and beating other children are popular forms of bullying has been reported consistently by studies of primary or secondary school children (O'Moore *et al.*, 1997; Whitney & Smith, 1993; Wolke & Stanford, 1999) and can be considered as a robust finding within and across cultures (Baldry, 1998; Bentley & Li, 1995; Genta *et al.*, 1996; Pereira *et al.*, 1996).

Boys exhibit overt aggressive acts from an early age more regularly than girls and this has been found consistently in studies of aggression and conduct problems (Calouste Gulbenkian Foundation, 1995; Farrington, 1993; Olweus, 1994). Bullying may be viewed as a component of 'conduct-disordered behaviour patterns' (Olweus, 1994). However, this gender difference refers to physical and overt bullying only. It is possible that once relational/indirect bullying is taken into account, girls may bully at equivalent rates to boys (Crick & Grotpeter, 1995), although this may not yet be the case in primary school children (Wolke, Woods, Bloomfield & Karstadt, 2000).

We also found that males are victimized more regularly than females, similar to Kumpulainen *et al.* (1998), Boulton and Underwood (1992) and Genta *et al.* (1996). However, Baldry (1998) reported more girls being victims of bullying compared to boys, and Farrington (1993), Bentley and Li (1995) and Whitney and Smith (1993) reported that boys and girls are equally victimized. Whether boys are more often victims may depend on the age of the children, with the rate of victimization in girls either increasing or that of boys decreasing in secondary school. In primary school children, however, boys are the target of bullying more often.

This study found that in both England and Germany, many or most of the children who bully others also become victims of bullying frequently or very frequently (bully/victims). Mainly boys are involved in both bullying and victimization, while girls are more often pure victims. This was particularly the case for English girls. Estimates of the

bully/victim category have varied quite considerably. Boulton and Smith (1994) reported a rate of 4.4% for bully/victims, Kumpulainen *et al.* (1998) of 7.8%, whereas Harachi *et al.* (1999) reported 28% bully/victims. Most studies have reported higher rates of pure bullies and victims as opposed to bully/victims. This is in contrast to the present findings where bully/victim rates were higher or about equivalent to pure bully rates. There are two explanations for this finding. First, where low rates of bully/victims were found the studies were predominantly conducted with secondary school children. Cross-sectional studies have indicated that the prevalence of victimization reduces with age but remains stable for bullying perpetration with age (Olweus, 1999; Whitney & Smith, 1993), and it may be that the reduction may occur mainly in the group of bully/victims. The findings by Kumpulainen *et al.* (1998) in their large study with primary school children suggests, similar to our study, that in young children the group of bully/victims is at least as large as the group of pure bullies. Secondly, most studies that have considered bully/victim groups have not taken into account or reported gender differences. From the present data and those studies that have considered gender (Kumpulainen *et al.*, 1998), it is apparent that there is a higher incidence of boys involved in bully/victim problems compared to girls. Wolke and Stanford (1999) reviewed evidence on bully/victims and reported that they are the 'classical' aggressive child who quickly flies off the handle (e.g. Kumpulainen *et al.*, 1998), are relatively stable in their involvement in bullying (Kumpulainen, Räsänen, & Henttonen, 1999), are the most rejected in the classroom and often come from families with highly disciplinary background. Recent data reported on behaviour problems of the children in the English sample (Wolke *et al.*, 2000) and in an independent Finnish sample (Kumpulainen *et al.*, 1998) do indeed indicate that bully/victims are at high risk for behaviour and continued peer relationship problems.

Some studies have suggested that socio-economic factors may be related to bullying rates (O'Moore *et al.*, 1997; Stephenson & Smith, 1989; Whitney & Smith, 1993). Others (Lind & Maxwell, 1996; Mellor, 1999) did not find relationships of SES in cross-tabulations with bullying behaviour. Our findings suggest that once controlled for other factors such as gender or country in the logistic regression, a significant but generally weak relationship with SES was detected. Children of lower SES do both bully more and become victims slightly more often. It indicates that children in schools with increased social disadvantage are at slightly increased risk for bullying as reported previously by O'Moore *et al.* (1997) and Whitney and Smith (1993).

Similarly, once controlled for other factors in multivariate analysis, there was a significant, but weak, indication that ethnic minority children are more likely to become victims. The weak association of ethnic background and skin colour with bullying in primary school children is consistent with previous research by Junger (1990), Whitney and Smith (1993), Moran *et al.* (1993) and Boulton (1995). Some previous studies have found that more children from ethnic minority groups report being called racist names (Boulton, 1995; Junger, 1990; Moran *et al.*, 1993). It is unknown in the present study whether ethnic minority children were called more racist names rather than other names as the content of swear words directed to the children was not analysed by child. This may be an important issue to examine in further studies. Nevertheless, the present findings are reassuring in that minority groups in primary school are seldom more frequently victims of bullying and not perpetrators more often.

This study also found a number of major differences between English and German

children's behaviour: (1) English primary school children reported that they are three times more often victims of direct or physical bullying every week (24%) than German primary school children of the same age or school experience (8%); (2) fewer English children (1.9–2.9%) than German children (4.8%) reported that they very frequently bully other children; (3) more German children reported being bullied on the way to and from school and to have experienced being bullied more by older children or pupils in parallel classes than English children; and (4) victimization was more frequent in smaller classes in England, while this factor was unrelated to bullying in Germany.

The most astonishing and unexpected finding is the much higher rate of victimization and, on the other hand, the lower rate of children who bully in the English sample. Taken at face value and considering that the majority of perpetrators are in the same class in England, a small number of children within English classes are responsible for the high levels of victimization of children in their classes. The bullies in England appear to be bullying large numbers of children, while their German counterparts bully fewer children.

Before accepting this finding, it is important to consider whether these are true differences or whether they can be accounted for by methodological factors. First, as far as we are aware, this is the first study of bullying in primary school children that used cross-culturally an identical instrument. The interview was translated and back translated to ensure that the meaning of the interview questions were identical in the two cultures (van de Vijver & Hambleton, 1996). Secondly, the participation rate was high in the classes in both Germany (85%) and England (91%). The 6% lower participation rate in Germany could not possibly account for the 16% difference in very frequent victimization. Thirdly, it is unlikely that the two-thirds of schools that were approached but did not participate in England did so because they had an extremely low rate of victims, thus biasing the English sample. Studies on selective bias usually found those with more social or personal problems are more likely to drop out or to not participate (Aylward, Hatcher, Stripp, Gustafson, & Leawitt, 1985; Wolke, Söhne, Ohrt, & Riegel, 1995). Fourthly, the questions may have been perceived differently between the two samples despite safeguards. The interview never used the term 'bullying', but described behaviours depicting bullying to the children. In addition, the children were asked to give examples of victimization and bullying and the same criteria were used in both samples to judge this as bullying or victimization. Fifthly, Smith and Levan (1995) questioned whether young children (6–7 years) may consider one-off occasions of aggression to qualify as bullying, thus inflating prevalence rates. Young primary school children might also find it difficult to understand the full meaning of 'imbalance of power', a necessary criterion to distinguish general aggression from bullying. However, both ourselves and Smith and Levan (1995) found that 6-year-olds have a good understanding of time reference. Furthermore, our interview explicitly explored how often bullying behaviour took place. The generally similar proportion of victims in Year 2 and Year 4 children in England further indicates that inflation of victimization in the younger children is unlikely.

Sixthly, the higher proportion of victims in England and low bullying others proportion may be because children in England have been more sensitized to bullying behaviour and victimization owing to media publicity and the behavioural and anti-bullying policies implemented in primary schools in England. The lower rate of reported bullying others and the higher rates of victimization appear consistent with a social

desirability effect (Harris, 1997). However, the lower rate of bullying others was only found for boys but not girls between the countries. It is difficult to explain why only boys may have answered in a socially desirable way about bullying others in England. According to previous research in adults, equally large or larger social desirability effects should be found for females (Bartz, Blume, & Rose, 1998; Becker & Cherny, 1994; Nicotera, 1998). Furthermore, we have no empirical indicators about whether publicity around bullying is higher in England than in Germany. Bullying has been in the mass media and a number of commissions on violence and bullying have been implemented in Germany since the late 1980s (Lösel & Bliesener, 1999). The first large prevalence studies of bullying in Britain (Whitney & Smith, 1993) and Germany were published at the same time (Ferstl, Niebel, & Hanewinkel, 1995; Freitag & Hurrelmann, 1993). There are differences in anti-bullying policies in the English and German sample that could possibly have led to different sensitization. In the Bavarian schools, general disciplinary and behavioural rules apply and they are the same across different schools within the state system and determined by the Department of Education. Children strictly enter the primary school within a clearly defined catchment area of the school in Bavaria. In contrast, most individual schools in England have their own policy ranging from a specific anti-bullying policy to a more general behavioural policy. If the behavioural or anti-bullying policies in England have led to raised awareness in the pupils, then it would be expected that reporting of both victimization and bullying others would be higher. This is not the case. However, if the policies have led to socially desirable reporting (to a stranger who assures anonymity or to teachers), then this would be worrying in itself as the intention of whole school policies is to encourage openness and fairness in communicating bullying behaviour and for the pupils involved to own up to bullying behaviour (Olweus, 1993).

The most parsimonious explanation for our results is that the differences in victimization are real and may be explained by differences in the two school systems. There is evidence in the data that reflect such real differences. The German children were bullied more often on their way to and from school than their English counterparts. This is explained by the difference in getting to and returning home from school in the two samples. In Bavaria, within the first week of admission to school (at 6–7 years of age), children are given a map indicating safe routes to school and the addresses of names of pupils in the same school. The pupil furthest from the school rings the bell of the house of the next child on the map and so forth so that pupils walk in groups to school (and return from school) without their parents. In contrast, in the sample studied in Hertfordshire and north London, nearly all children were brought to school by car by a parent. A further difference is that German schools are larger and often have two or three classes with same year intake (parallel classes). This explains why the present study found that more German than English children were bullied by children in the parallel classes, older children and in corridors.

There are other important differences in school systems. School hours are limited to the morning (between 8 am and 1 pm) with school lessons running for 45 minutes with two larger breaks (15 min) in Bavaria. In the English sample, school attendance is usually from 8.50 am to 3.15 pm with a long lunch break. Actual teaching contact hours are not very different. Each lesson in Bavaria is subject-based and the time plan predetermined for the semester (e.g. maths, German, science, sports, music), and all pupils work on the

same tasks. In the English sample, different groups of pupils within the same classroom often worked on different projects or subjects. Most of the lessons in Bavaria are frontal teaching: group work is the exception rather than the rule, with the reverse true during data collection in the English sample. At Year 2 level, children in Bavaria are expected to do up to 1.5 hours homework daily. Schoolwork and achievement (in school) is assessed in regular subject-based tests and marked. If the child does not obtain minimum marks in his or her subjects over the year, he or she must repeat the class (e.g. Year 2), which occurs in up to 10% of pupils (Wolke & Meyer, 1999; Wolke & Schulz, 1997). In contrast, all children stay in the same class in English primary schools independent of attainment. The longer school days, the longer breaks (e.g. at lunchtime supervised mainly by dinner ladies) and the more frequent work in assigned groups in England may provide more chances for being victimized in English than in German primary schools.

Apart from the above differences between English and German schools, differences may exist also in 'school ethos' that either operate or foster aggressive behaviour (Rutter, Maughan, Mortimore, & Ouston, 1979; Stephenson & Smith, 1989; Sylva, 1994; Tattum & Lane, 1989). However, this study has no direct measures of school ethos and thus we cannot comment. Future research on the role of school ethos, teacher behaviour and bullying behaviour (Siann *et al.*, 1993; Tattum & Lane, 1989) would therefore be welcome.

Finally, the present results for the English sample lend support to O'Moore and Hillery (1989), O'Moore *et al.* (1997) and Mooij (1992), who found that overall there is more bullying behaviour in small than large schools (although not statistically significant in this study) and small than large classes. This is perhaps surprising, as most research has reported no effects of school and class size (Lagerspetz *et al.*, 1982; Mellor, 1999; Olweus, 1984; Whitney & Smith, 1993) as in the German sample. Bullying is often a group process, and in small schools and classes there are more confined spaces and fewer friendship choices and the group changes are less frequent (reputation effect; O'Moore *et al.*, 1997). The effect of class size may also be stronger where peers are more often involved in group activities such as in England. The finding that there is slightly increased bullying behaviour in rural schools in England is contradictory to past research, which has either reported no effect or more bullying in urban schools (Lagerspetz *et al.*, 1982; Lind & Maxwell, 1996; Mellor, 1999). O'Moore *et al.* (1997) reported opposite results, with more bullying in rural schools in post-primary and more bullying in urban primary schools. The reasons for these inconsistent reports need further investigation. Overall, these findings indicate that schooling experiences are more heterogeneous in England than in Germany.

There are a number of implications of our findings. First, researchers need to place more emphasis on explicit and consistent methodologies with clear definitions of what is meant by bullying within and between countries as done here. This will allow studies to be compared more meaningfully. Secondly, work is called for regarding reasons why victimization levels are higher in England compared to Germany. Differences in teaching styles and school ethos between the two countries may be important factors to consider apart from possible differences in socially desirable reporting. Thirdly, little is known about the group categorized as 'bully/victims' vs. pure bullies and pure victims. Bully/victims represent a substantial group of young children involved in carrying out bullying. Many bullies also become victims at other times in primary school and this

group appears to be at particular risk for persistent peer and behaviour problems (Kumpulainen *et al.*, 1999; Wolke *et al.*, 2000). Finally, cultural differences regarding school-related factors indicate that interventions against bullying need to be adapted according to the local school and cultural setting.

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References

- Ahmad, Y. S., & Smith, P. K. (1990). Behavioural measures review: 1. Bullying in schools. *Newsletter: Association for Child Psychology & Psychiatry*, 12(4), 26–27.
- Atlas, R. S., & Pepler, D. J. (1998). Observations of bullying in the classroom. *Journal of Educational Research*, 92(2), 86–99.
- Aylward, G., Hatcher, R., Stripp, B., Gustafson, N., & Leawitt, L. (1985). Who goes and who stays: Subject loss in a multicenter, longitudinal follow-up study. *Journal of Development and Behaviour Pediatrics*, 6(1), 3–8.
- Baldry, A. C. (1998). Bullying among Italian middle school students. *School Psychology International*, 19, 361–374.
- Bartz, A. E., Blume, N. E., & Rose, J. (1998). Gender differences in self-report measures of anger: The role of social desirability and negative affect. *Journal of Social Behavior and Personality*, 11(5), 241–253.
- Becker, G., & Cherny, S. (1994). Gender-controlled measures of socially desirable responding. *Journal of Clinical Psychology*, 50, 746–752.
- Bentley, K. M., & Li, A. K. F. (1995). Bully and victim problems in elementary schools and students' beliefs about aggression. *Canadian Journal of School Psychology*, 11(2), 153–165.
- Björkqvist, K., Lagerspetz, K. M. J., & Kaukiainen, A. (1992). Do girls manipulate and boys fight? Development trends in regard to direct and indirect aggression. *Aggressive Behaviour*, 18, 117–127.
- Boulton, M. J. (1993). Aggressive fighting in British middle school children. *Educational Studies*, 19(1), 19–39.
- Boulton, M. J. (1995). Patterns of bully/victim problems in mixed race groups of children. *Social Development*, 4(3), 277–293.
- Boulton, M. J., & Smith, P. K. (1994). Bully/victim problems in middle-school children: Stability, self-perceived competence, peer perceptions and peer acceptance. *British Journal of Developmental Psychology*, 12, 315–329.
- Boulton, M. J., & Underwood, K. (1994). Bully/victim problems among middle school children. *British Journal of Educational Psychology*, 62, 73–87.
- Bowers, L., Smith, P. K., & Binney, V. (1994). Perceived family relationships of bullies, victims and bully/victims in middle childhood. *Journal of Social and Personal Relationships*, 11, 215–232.
- Byrne, B. J. (1994). Bullies and victims in a school setting with reference to some Dublin schools. *Irish Journal of Psychology*, 15(4), 574–586.
- Calouste Gulbenkian Foundation (1995). *Children and violence* (1st ed.). London: Calouste Gulbenkian Foundation.
- Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development*, 66, 710–722.
- Farrington, D. P. (1993). Understanding and preventing bullying. In M. Tonry (Ed.), *Crime and justice* (Vol. 17, pp. 381–458). Chicago: University of Chicago.
- Ferstl, R., Niebel, G., & Hanewinkel, R. (1995), cited in F. Lösel & T. Bliesener (1999), Germany. In P. K.

- Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *The nature of school bullying: A cross-national perspective* (p. 232). London: Routledge.
- Freitag, M., & Hurrelmann, K. (1993), cited in F. Lösel & T. Bliesener (1999), Germany. In P. K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *The nature of school bullying: A cross-national perspective* (pp. 229–230). London: Routledge.
- Gasteiger-Klicpera, B., & Klicpera, C. (1997). Aggressivität und soziale Stellung in der Klassengemeinschaft. {Aggressivity and social position within the class}. *Zeitschrift für Kinder und Jugendpsychiatrie*, 25, 139–150.
- Genta, M. L., Menesini, E., Fonzi, A., Costabile, A., & Smith, P. K. (1996). Bullies and victims in schools in central and southern Italy. *European Journal of Psychology of Education*, 11(1), 97–110.
- Hanewinkel, R., & Knaack, R. (1997). Mobbing: Eine Fragebogenstudie zum Ausmass von Aggression und Gewalt an Schulen. {Bullying: A questionnaire study of the prevalence of aggression and violence at schools}. *Empirische Pädagogik*, 11(3), 403–422.
- Harachi, T. W., Catalano, R. F., & Hawkins, J. D. (1999). Canada. In P. K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *The nature of school bullying: A cross-national perspective* (pp. 296–306). London: Routledge.
- Harris, J. A. (1997). A further evaluation of the aggression questionnaire: Issues of validity and reliability. *Behaviour Research and Therapy*, 35, 1047–1053.
- Heinemann, P. (1972), cited in D. Olweus (1999), Norway. In P. K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *The nature of school bullying: A cross-national perspective* (pp. 28–48). London: Routledge.
- Hirano, K. (1992). *Bullying and victimization in Japanese classrooms*. Paper presented at the European Conference on Developmental Psychology, Spain.
- Junger, M. (1990). Intergroup bullying and racial harassment in the Netherlands. *Sociology and Social Research*, 74(2), 65–72.
- Junger-Tas, J. (1990). The Netherlands. In P. K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *The nature of school bullying: A cross-national perspective* (pp. 205–223). London: Routledge.
- Kumpulainen, K., Räsänen, E., Henttonen, I., Almqvist, F., Kresanov, K., Linna, S.-L., Moilanen, I., Piha, J., Puura, K., & Tamminen, T. (1998). Bullying and psychiatric symptoms among elementary school-age children. *Child Abuse and Neglect*, 22(7), 705–717.
- Kumpulainen, K., Räsänen, E., & Henttonen, I. (1999). Children involved in bullying: Psychological disturbance and the persistence of the involvement. *Child Abuse and Neglect*, 23(12), 1253–1262.
- Lagerspetz, K. M. J., Björkqvist, K., Berts, M., & King, E. (1982). Group aggression among school children in three schools. *Scandinavian Journal of Psychology*, 23, 45–52.
- Lind, J., & Maxwell, G. (1996). *Children's experience of violence at school*. Wellington: Office of the Commissioner for Children.
- Lösel, F., & Bliesener, T. (1999). Germany. In P. K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *The nature of school bullying: A cross-national perspective* (pp. 224–249). London: Routledge.
- Mellor, A. (1999). Scotland. In P. K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *The nature of school bullying: A cross-national perspective* (pp. 91–111). London: Routledge.
- Menesini, E., Eslea, M., Smith, P. K., Genta, M. L., Giannetti, E., Fonzi, A., & Costabile, A. (1997). Cross-national comparison of children's attitudes towards bully/victim problems in school. *Aggressive Behaviour*, 23, 245–257.
- Mooij, T. (1992). *Pesten in bet onderwijs*. Nijmegen: Instituut voor Toegepaste Sociale Wetenschappen.
- Moran, S., Smith, P., Thompson, D., & Whitney, I. (1993). Ethical differences in experiences of bullying: Asian and white children. *British Journal of Educational Psychology*, 63, 431–440.
- Morita, Y., Soeda, H., Soeda, K., & Taki, M. (1999). Japan. In P. K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *The nature of school bullying: A cross-national perspective* (pp. 309–323). London: Routledge.
- Neary, A., & Joseph, S. (1994). Peer victimization and its relationship to self-concept and depression among schoolgirls. *Personality and Individual Differences*, 16(1), 183–186.
- Nicotera, A. M. (1998). An assessment of the argumentativeness scale for social desirability bias. *Communication Reports*, 9(1), 23–35.
- Olweus, D. (1978). *Aggression in the schools: Bullies and whipping boys*. New York: Wiley.
- Olweus, D. (1984). Aggressors and their victims: Bullying at school. In N. Frude & H. Gault (Eds.), *Disruptive behaviour in schools* (pp. 57–76). New York: Wiley.

- Olweus, D. (1993). *Bullying in schools: What we know and what we can do*. Oxford: Blackwell.
- Olweus, D. (1994). Annotation: Bullying at school: Basic facts and effects of a school based intervention program. *Journal of Child Psychology and Psychiatry*, 35(7), 1171–1190.
- Olweus, D. (1997). Bully/victim problems in school: Facts and intervention. *European Journal of Psychology of Education*, 12(4), 495–510.
- Olweus, D. (1999). Norway. In P. K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *The nature of school bullying: A cross-national perspective* (pp. 7–27). London: Routledge.
- O'Moore, A. M., & Hillery, B. (1989). Bullying in Dublin schools. *Irish Journal of Psychology*, 10(3), 426–441.
- O'Moore, A. M., Kirkham, C., & Smith, M. (1997). Bullying behaviour in Irish schools: A nationwide study. *Irish Journal of Psychology*, 18(2), 141–169.
- Pepler, D. J., & Craig, W. M. (1995). A peek behind the fence: Naturalistic observations of aggressive children with remote audiovisual recording. *Developmental Psychology*, 31(4), 548.
- Pepler, D. J., Craig, W. M., & Roberts, W. L. (1998). Observations of aggressive and nonaggressive children on the school playground. *Merrill-Palmer Quarterly*, 44(1), 55–76.
- Pereira, B., Mendonça, D., Netto, C., Almeida, A., Valente, L., & Smith, P. K. (1996). *Facts and figures of the first survey on bullying in Portuguese schools*. Paper presented at the European Conference on Educational Research, Seville.
- Perry, D. G., Kusel, S. J., & Perry, L. C. (1988). Victims of peer aggression. *Developmental Psychology*, 24(6), 807–814.
- Pikas, A. (1989). A pure concept of mobbing gives the best results for treatment. *School Psychology International*, 10, 95–104.
- Rutter, M., Maughan, B., Mortimore, P., & Ouston, J. (1979). *Fifteen thousand hours: Secondary schools and their effects on children*. London: Open Books Publishing.
- Schuster, B. (1997). Aussenseiter in der schule: Prävalenz von viktimisierung und zusammenhand mit sozialem status. *Zeitschrift für Sozialpsychologie*, 28, 251–264.
- Schwartz, D., Dodge, K. A., Pettit, G. S., & Bates, J. E. (1997). The early socialization of aggressive victims of bullying. *Child Development*, 68(4), 665–675.
- Sharp, S., & Smith, P. K. (Eds.) (1994). *Tackling bullying in your school* (1st ed.). London: Routledge.
- Siann, G., Callaghan, M., Lockhart, R., & Rawson, L. (1993). Bullying: Teachers' views and school effects. *Educational Studies*, 19(3), 307–321.
- Smith, P. K., & Levan, S. (1995). Perceptions and experiences of bullying in younger pupils. *British Journal of Educational Psychology*, 65, 489–500.
- Smith, P. K., Morita, Y., Junger-Tas, J., Olweus, D., Catalano, R., & Slee, P. (1999). *The nature of school bullying: A cross-national perspective*. London: Routledge.
- Smith, P. K., & Thompson, D. A. (1991). *Practical approaches to bullying*. London: David Fulton.
- Stephenson, P., & Smith, D. (1989). Bullying in the junior school. In D. A. Tattum (Ed.), *Bullying in schools* (pp. 45–57). Stoke-on-Trent: Trentham Books.
- Sutton, J., & Smith, P. K. (1999). Bullying as a group process: An adaptation of the participant role approach. *Aggressive Behaviour*, 25, 97–111.
- Sylva, K. (1994). School influences on children's development. *Journal of Child Psychology and Psychiatry*, 35(1), 135–170.
- Tattum, D. P., & Lane, D. A. (1989). *Bullying in schools*. London: Trentham Books.
- van de Vijver, F. R., & Hambleton, R. K. (1996). Translating tests: Some practical guidelines. *European Psychologist*, 1(2), 89–99.
- Vettenburg, N. (1999). Belgium. In P. K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano, & P. Slee (Eds.), *The nature of school bullying: A cross-national perspective* (pp. 187–204). London: Routledge.
- Vitaro, F., Gendreau, P. L., Tremblay, R. E., & Oligny, P. (1998). Reactive and proactive aggression differentially predict later conduct problems. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 39(3), 377–385.
- Whitney, I., & Smith, P. K. (1993). A survey of the nature and extent of bullying in junior/middle and secondary schools. *Educational Research*, 35(1), 3–25.
- Wolke, D., & Meyer, R. (1999). Ergebnisse der Bayerischen Entwicklungsstudie: Implikationen für Theorie und Praxis. {Findings of the Bavarian longitudinal studies. Implications for theory and practice}. *Kindheit und Entwicklung*, 8(1), 24–36.

- Wolke, D., & Schulz, H. (1997). Bullying bei Grundschulkindern: Prävalenz, Schulfaktoren und Täter-Opfer Charakteristiken. {Bulling in primary school children: Prevalence, school factors and bully-victim characteristics (Abstracts)}. In J. Glück (Ed.), *13. Tagung Entwicklungspsychologie: Kurzfassungen* (p. 320). Wien: Abtlg. fuer Entwicklungspsychologie und Paedagogische Psychologie, Institut fuer Psychologie.
- Wolke, D., Söhne, B., Ohrt, B., & Riegel, K. (1995). Follow-up of preterm children: Important to document dropouts. *Lancet*, *345*(8947), 447.
- Wolke, D., & Stanford, K. (1999). Bullying in school children. In D. Messer & S. Millar (Eds.), *Developmental Psychology* (pp. 341–360). London: Arnold.
- Wolke, D., Woods, S., Bloomfield, L., & Karstadt, L. (2000). The association between bullying and behaviour problems in primary school children. *Journal of Child Psychology and Psychiatry*, *48*, 989–1002.
- Yates, C., & Smith, P. K. (1989). Bullying in two English comprehensive schools. In E. M. Roland, (Ed.), *Bullying: An international perspective* (pp. 22–34). London: David Fulton.

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