INTRODUCTION

There is now strong consensus in the research literature that children whose parents have divorced are at increased risk of displaying a variety of problem behaviors compared to children living in continuously intact families (Amato, 2000, 2001; DeGarmo & Forgatch, 1999; Emery, 1999; Hetherington, 1999; Hetherington, Bridges & Insabella, 1998). The elevated risks cover a broad range of problems, including externalizing, internalizing, social and academic problems. Moreover, the risks do not seem to be confined to childhood but tend to persist into young adulthood and adulthood as well (Amato & Keith, 1991a).

The magnitude of these risks has been a matter of some controversy (Cherlin, 1999), but several studies indicate that young people are at an approximately doubled risk of engaging in problem behaviors such as antisocial behavior, teen pregnancy and dropping out of school if their parents are divorced (Emery, 1999; Hetherington & Stanley Hagan, 1999; McLanahan & Sandefur, 1994; Simons, 1996). In other areas concerning internalization problems or problematic relationship with peers, the risks are typically somewhat lower (Emery, 1999). Translated into mean differences, studies typically find effect sizes in the range from 0.10 to 0.40 standard deviation units in disadvantage for the divorce group compared to children living in intact two-parent families (Amato & Keith, 1991b; Emery, 1999; Thompson & Amato, 1999).

Several attempts to explain the elevated risks have been advanced. According to Amato (1993), most of the explanations can be classified into five main perspectives: The loss of the non-custodial parent, the adjustment of the custodial parent, economic deprivation or disadvantage, interparental conflict, and stressful life changes. Most researchers regard these perspectives as complementary rather than competing (e.g. Amato, 1993; Hetherington et al., 1998), but there is little consensus with regard to the relative merits of these perspectives (Simons, Lin, Gordon, Conger & Lorenz, 1999).

In the present study, we have special focus on the economic deprivation perspective. Quite a few social scientists and policy advocates are heavily influenced by this perspective both in trying to explain why children of divorce have an increased risk of problematic outcomes and in suggesting ways to amend it (see Hetherington & Kelly, 2002; Thompson & Wyatt, 1999). According to the economic deprivation perspective, the increased risk can be attributed to economic hardship and all that follows from that.

Most researchers use an investment and/or a family-stress perspective when they try to explain why children seem to be negatively affected by economic deprivation or poverty (see Mayer, 1997; McLanahan & Sandefur, 1994; Yeung, Linver & Brooks-Gunn, 2002). According to the investment perspective, economically disadvantaged children's adjustment is hampered by the fact that their parents are unable to spend as much on their offspring's education, leisure, housing,
coping situations. The family-stress perspective assumes that economic hardship stresses the parents which in turn affects their parenting quality in a negative way (Simons, 1996).

Unfortunately, the economic deprivation perspective has been subjected to relatively limited empirical scrutiny (Amato, 1993; Duncan, 1994; Emery, 1999; Seltzer, 1994), but several large studies have shown that control of economic resources has considerably reduced the risk of some outcomes such as lowered academic achievement, teen pregnancy, idleness and high school dropout among children living with a divorced single mother (Guidubaldi, Cleminshaw, Perry & McLoughlin, 1983; McLanahan & Sandefur, 1994; Zill, 1995). Other researchers, however, have not been very convinced by these findings and have suggested partially different explanations (e.g. Hetherington & Kelly, 2002; Jeynes, 2002; Mayer, 1997; Zill, 1995).

In the present study, we wanted to focus on the economic deprivation perspective by examining how children of divorce adapt in Norway, a Scandinavian welfare state, compared to what has been typically found in research conducted in the United States.

A fairly common view holds that children's risks of negative outcomes associated with family dissolution are generally small or even nonexistent in Scandinavia, and clearly smaller than what is usually found in the United States (Houseknecht & Sastry, 1996; Lassbo, 1988; Moxnes, Holter & Haugen, 1999; Sorensen, 1999; Trost, 1996; Wadsby & Svedin, 1996). This view is often based on the following three arguments.

The first of these, which is especially relevant for this paper, requires some elaboration. In line with the economic disadvantage perspective, many believe that children of divorce will be spared some of the risk in the Scandinavian countries due to the advanced welfare systems introduced in these countries. Even if economic decline following divorce is a rather universal phenomenon for single parents, there are certainly great differences in how the state intervenes in trying to buffer this deterioration. While the United States is typically described as being a laggard with regard to family support (Bronfenbrenner & Neville, 1994; Kamerman & Kahn, 1988, 2001), placing much of the responsibility on the family itself and the private market, the Scandinavian countries have traditionally been much more proactive, regarding family welfare to a great extent as a public responsibility (Esping-Andersen, 1990; Kamerman & Kahn, 1988, 2001). Whereas the United States have relied much on means tested (“poor relief”) programs for single mothers, universal programs such as child allowance, tax reductions, national health insurance etc. have been available for all families with children in Norway (Kamerman & Kahn, 1988; Wong, Garfinkel & McLanahan, 1993). There have also been programs directly targeted at all single parents, such as guaranteed minimum child support from the state if the non-custodial parent does not pay, double child benefit for the first child, child care benefits if the parent is working or taking education etc.

As a consequence of this, only 10% or less of Scandinavian children (including Norwegian) living in single-mother families resided in a household with an income below half of the national median, while the figure was nearly 60% for the US counterparts (Bradbury & Jäntti, 1999). Further, Phipps (1999) found that children living with single mothers had a “disposable income” which amounted to 81% (1991) of all children in Norway compared to just 52% in the United States (1994). In more absolute terms, single mothers in Norway seem to have approximately 1.6 times higher disposable income than single mothers in the United States (Phipps, 1999).

All in all, there is no reason to doubt that Scandinavian children are spared much of the economic decline that average US children experience when their parents break up. Consequently, from an economic disadvantage perspective one would expect that the negative effects associated with divorce would be clearly lower in Scandinavia than what is typically found in US studies.

In addition, many believe that children of divorce will be at a rather small risk in Scandinavia since, as the United States, the Scandinavian welfare states can be considered post-nuclear countries (Sorensen, 1999), with high rates of divorce, repartnering, cohabitation and single mothering. As divorce has become much more common nowadays, it is reasonable to assume that children of divorce are less likely to come from highly dysfunctional families than has been the case in the past, or in countries with a lower divorce rate. In addition, an increase in non-traditional family forms is likely to lead toward more accepting attitudes and less stigmatization of dissolved families.

Finally, Scandinavians have in general relatively liberal attitudes toward divorce (and other family structures). In contrast, North Americans seem to have a stricter view of divorce than any European country, except Ireland (Akker, Halman & Moor, 1994). This means that possible stigmatization effects are probably smaller in the Scandinavian countries than in the United States (Wadsby & Svedin, 1996).

Unfortunately, relatively little research on children of divorce has been conducted in the Scandinavian countries, and previous research has provided conflicting findings. In some studies, the increased risks for children of divorce have been reported to be small or even absent (Gahler, 1998; Wadsby & Svedin, 1993, 1996), while other studies have found results comparable to what is typically found in US studies (Breidablik & Meland, 1999; Hansagi, Brandt & Andreasson, 2000; Jonsson & Gahler, 1997).

A possible reason for the conflicting findings is that the little research that has been done has generally been based on either relatively small samples (Mednick, Baker, Reznick & Hocevar, 1990; Wadsby & Svedin, 1996) or large longitudinal studies, typically measuring officially recorded psychiatric diagnoses or criminal offences in adult life (Hansagi et al., 2000; Romelsjo, Kaplan, Cohen, Allebeck & Andreasson, 1992). In the latter studies, the samples are born in the 1950s or early 1960s, and it is therefore uncertain how relevant the
findings are for children of today. It is also questionable how valid officially coded diagnoses/criminal offences are as a measure of how average children of divorce adapt. Based on the available research, we therefore have little information on how children adapt to marital dissolution in contemporary Scandinavia.

Research questions

This study had several major goals. First, we wanted to examine how children of divorce in a Scandinavian welfare state such as Norway adapt across a broad range of outcomes. How large are the "effect sizes" or standardized differences between children of divorced parents compared with children from continuously intact families? Are there marked differences in effects for different areas of adjustment? Do the effects vary by gender or age group? We restricted our sample to children in single-mother families which is the most common post-divorce family structure and the one that has been subjected to most research (Amato & Keith, 1991b).

These issues are of interest in their own right, and as mentioned, the negative effects of divorce might be expected to be small or even altogether absent (e.g., Sorensen, 1999; Wadsby & Svedin, 1996). Such an expectation would be mainly due to the relatively generous welfare benefits provided to disrupted families in the Scandinavian countries, the increasing frequency of divorce (with more than 25% of the children in our sample having experienced divorce), and the relatively liberal attitudes surrounding family disruption in Norway.

Of particular relevance in this context is a comparison with results from the United States where most of the research on divorce has been conducted, and where family policies are very different from those in Norway, as explained in the introductory section. Our comparison data were taken from the well-known meta-analyses of mostly US studies of divorce conducted by Amato and Keith (1991b) and Amato (2001) which compares children living in first time married families with their counterparts living with a divorced single mother.

Beyond these general comparisons at the macro level, we wanted to examine in greater detail the merits of the economic deprivation or disadvantage perspective from the more circumscribed individual (family) difference perspective. Also for these analyses, it is natural to compare the findings from Norway with results from studies in the United States and to expect the explanatory power of economic disadvantage to be weaker for the Norwegian data. Of particular relevance here are analyses comprising aspects of academic achievement where several US studies have found economic deprivation factors to be particularly important (e.g., Guidubaldi et al., 1983; Jeynes, 2000; McLanahan, 1997; McLanahan & Sandefur, 1994; Thomson, Hanson & McLanahan, 1994).

METHOD

Participants and procedure

The data which form the basis of this study were collected in the town community of Bergen, Norway, in the spring of 1997 (May–June) as part of a large-scale cohort-longitudinal intervention project under the direction of the second author (see Olweus, 2004; Olweus & Limber, 1999; Solberg & Olweus, 2003). Bergen is the second largest city in Norway, with a population of approximately 225,000 in 1997. The original sample consisted of 5,171 students (88.1% of the total population) in grades 5 through 9 (2,544 girls and 2,627 boys), with modal ages of 11 to 15 years, recruited from 37 schools; 3,182 of the students were from the elementary level (grades 5 through 7) while 1989 came from the lower secondary level (grades 8 and 9). Although the target population of this study only comprised schools in Bergen, there are grounds for assuming, on the basis of earlier large-scale studies (e.g., Olweus, 1991, 1993), that the sample in many respects is roughly representative of other town communities in Norway. A somewhat more detailed description of the sample is given in Solberg & Olweus (2003).

From the original sample, only students who reported that they lived with both their biological parents or had experienced divorce/separation and lived in a single-mother family were used. This was done to exclude children who had been brought up by a never married or widowed mother. The resulting sample consisted of 4,127 students (2,036 girls and 2,091 boys) of whom 623 reported that their parents were either separated or divorced and that they lived in a single-mother family. Some 81% of these students had experienced the family dissolution more than two years before the time the data were collected.

The survey questionnaire came in two versions, as some of the questions (e.g., questions about use of illegal substances, and relatively serious violent behavior) were only given to seventh through ninth graders. The questionnaire was completed in the students’ regular classrooms under the supervision of two specially trained research assistants. Teachers were absent during the administration of the questionnaire.

Measures

Family structure. Three items were used to determine family structure. The respondents were asked if their parents were divorced/separated or not, who they lived with at present, and which of their parents they lived with most of the time (biological mother, biological father, or both). Children whose parents were either divorced or separated were treated as one group, and will be called children of divorce in the following. This is common practice in the research literature (e.g. Allison & Furstenberg, 1989; Amato & Keith, 1991b; Cherlin et al., 1991).

As mentioned, we restricted the divorce group to children who resided with a divorced single mother. To be included in this group, children had to affirm that: (a) their parents were divorced; (b) they lived mostly together with their biological mother at the time of the study; (c) there was no stepfather or male co-habitee/friend of the mother in the household. Forty-eight percent (n = 623) of the children with divorced parents met these criteria. They were compared with children who lived with both of their non-divorced parents.

In conformity with many other studies (see Astone & McLanahan, 1991; Smith, 1997; Wenk, Hardesty, Morgan & Blair, 1994 for examples of studies included in the Amato 2001 meta-analysis), our study was somewhat limited in classifying children's family structures with absolute confidence. As mentioned, children with divorced/separated parents were compared with children who lived with their non-divorced biological parents at the time of study. As the questionnaire
did not include a question to determine if the biological parents were formally married or not, the non-divorced group was likely to include some children living with both their biological parents who had been cohabiting since the child's birth. This is not likely to be a significant problem for our study; however, since cohabiting biological parents, who did not either marry or leave each other when the children were relatively young, were still fairly infrequent in the early to mid 1980s in Norway (less that 10% of all the children born to two parents) when the children in the present study were born (Jensen & Clausen, 1997).

Parental education. In order to assess parental education, the participants were asked about the kind of education their parents had. There was a separate question for father's and mother's education. The three response categories were: (1) compulsory primary (and secondary) school (usually 9 years); (2) secondary education (usually 12 years); and (3) college/university education. In addition, there was a category for “don’t know”. This question was only included in the questionnaire for the older age group. In an earlier unpublished study, students’ responses were found to correlate well with corresponding responses provided by the parents themselves (a Pearson correlation of approximately 0.50).

Current economic resources. To assess economic resources, we used a combination of two variables. The participants were first asked to report how much they believed their parents earned in comparison with others. Response alternatives were: (1) less than others, (2) about the same as others, and (3) more than others. Second, they were asked to report what kind of residence they lived in. The response categories were: (1) lodging, (2) flat (in a block), (3) semi-detached/terraced house, and (4) detached house/villa. The two variables were standardized and averaged. As with parental education, data on this variable were only collected for the older age group.

Antisocial behavior. To assess the degree to which students were involved in non-violent antisocial activities, we used the 17-item Bergen Questionnaire on Antisocial Behavior developed by Olweus and described in detail in Bendixen and Olweus (1999). Ten of these items concern relatively non-serious, high-prevalent activities (for example, avoid paying for things; scribble on the school building; and skip school for a whole day), whereas seven items cover more serious, low-prevalent activities (for example, sign someone else's name to get money or other things; purposely break chairs, tables etc. in school; break into a shop etc.). Response alternatives were: (0) no, (1) once, and (2) twice or more times (“this term” which amounted to 4–5 months in this study). Cronbach's alpha was 0.83 for the girls and 0.88 for the boys. Violent behavior. Involvement in violent behavior was measured by a scale comprising five items on fighting and attacking other people. Examples include “Started a fight with another student” and “Hurt somebody in a fight where you used a weapon (e.g., a knife, club or something like that).” Response alternatives were the same as for antisocial behavior. This scale was only available for the older age group. Cronbach's alpha was 0.62 for the girls and 0.79 for the boys.

Use of illegal drugs. This scale (Bendixen & Olweus, 1999) includes five items assessing if the respondent had used any illegal drugs (sniffed glue, used hashish, amphetamines etc.) this term. Response alternatives were the same as for antisocial behavior. In order to calculate Relative Risk (RR, below), this scale was dichotomized into (0) not often drunk (codes 0–2), and (1) often drunk (codes 3–4). Data were only available for the oldest age group.

Regular smoker. To assess smoking behavior, the students in the older age group were asked: “Do you smoke cigarettes or hand-rolling tobacco regularly?” The response alternatives were: (0) no, I have hardly ever smoked, (1) no, I only smoke occasionally, (2) yes, but I do not smoke every day, and (3) yes, I smoke every day. In calculating RR, students who used one of the two first response alternatives were classified as non-smokers, while the others were classified as regular smokers.

Sanctions by teachers. This scale assessed how often the school or the teachers had imposed sanctions on the student due to misconduct “this term” (Bendixen & Olweus, 1999). It consists of three items (e.g., “Been sent out of the class room because of something you did”), which have the same response alternatives as the items for antisocial behavior. Cronbach's alpha was 0.60 for the girls and 0.69 for the boys.

Being bullied and bullying others. To measure bully/victim problems, we used the two global questions from the Revised Olweus Bully/Victim Questionnaire (Olweus, 1993; Olweus, 1996) as described in Solberg and Olweus (2003). After having been presented a detailed definition of the concept of bullying, the students were asked: “How often have you been bullied at school in the past couple of months?” A parallel question was used to measure “Bullying others” (other students). Response alternative were: (0) I haven’t been bullied/bullied other students at school in the past couple of months, (1) only once or twice, (2) two or three times a month, (3) about once a week, and (4) several times a week. In calculation of RR, responses with codes 0 and 1 were collapsed into one category (0), and responses with codes 2–4 into the other category (1). Solberg & Olweus (2003). Generally, these global questions have been found to have several desirable psychometric properties (Solberg & Olweus, 2003).

ADHD tendencies. The ADHD tendencies scale consisted of three subscales which assessed how inattentive (6 items, e.g., “I think it is hard to stay concentrated on one task for a long time”), hyperactive (7 items, e.g., “I often find it difficult to sit quietly during class”) and impulsive (6 items, e.g., “I often say and do things without thinking first”) the respondents considered themselves to be. The six-point response alternatives of the Likert scale format (1 = does not apply at all, through 6 = applies completely). The items were chosen to reflect the descriptions of Attention Deficit Hyperactive Disorder as described in the “Diagnostic and statistical manual (IV)” (American Psychiatric Association, 1994). The impulsiveness subscale was only available for the oldest age group. Cronbach’s alpha was 0.81, 0.86, 0.70 for the girls on the inattention, hyperactive and impulsive scales, respectively, while it was 0.77, 0.84, 0.71 for the boys.

Depressive tendencies. A seven-item scale developed by Olweus and Alsaker (Alsaker, Dundas & Olweus, 1991; Holsen, Kraft & Vitterso, 2000) measured depressive tendencies. The students were asked to report how much they felt various statements applied to them (e.g., “I often feel depressed without knowing why”, “I think my life is mostly miserable”). The response alternatives were the same as for the previous scales. Cronbach's alpha was 0.78 for the girls and 0.76 for the boys.

Global negative self-evaluations. To assess the extent to which the students had generally negative views of themselves, we used a six-item
scale (e.g., "I feel I do not have much to be proud of", "I feel quite often that I am a failure") described by Alsaker & Olweus (1986). Some of the items used in this scale originate from Rosenberg's self-esteem scale, which is a well-validated measure of self-esteem. Cronbach's alpha was 0.86 for the girls and 0.80 for the boys.

Social disintegration. Perceived social disintegration was assessed by a four-item scale, with six response categories (1 = seldom or never, 6 = very often). One item asked the students how accepted they felt among their classmates (“I feel less well liked than other students in my class”, while three items dealt with the degree of perceived social alienation while being with classmates or peers (e.g. "When I am together with other children/young people, I think I don't quite belong there"). Cronbach's alpha was 0.73 for the girls and 0.77 for the boys.

Grade point average (GPA). GPA was assessed by asking respondents to report which grades they had got in three key subjects (Norwegian, English and Math) at the end of the last term. The response categories (1 = poor (Lg) through 5 = excellent (S)) followed the grading system that is normally used in secondary school in Norway. The three grades were averaged into one variable. GPA could only be calculated for students in grades 8 and 9, as students normally do not receive grades until in the eighth grade in Norway. Cronbach's alpha was 0.75 for the girls and 0.77 for the boys.

Statistical analyses
The statistical analyses were performed with the SPSS 11.0 and Amos 4.0 program packages. Cohen's $d$ and Relative Risk (RR) were used to quantify the differences between the relevant comparison groups (Cohen, 1988; Rosenthal, 1991). In computing RR, we either used naturally occurring dichotomies or dichotomized continuous outcome variables into a “worst” quartile (1) and the rest (0). As many of the analyses included confounders and/or examined for potential mediating effects the RR were translated from Odds ratios (using the formula provided by Zhang and Kai, 1998), derived from logistic regression analyses.

A large survey such as the present one inevitably contains a certain amount of missing data. We decided to replace missing data using an Expectation-Maximization (EM) algorithm available in the Missing Value Analysis module in SPSS (Hill, 1997). Unlike standard ad hoc missing data routines, such as mean replacement or pairwise deletion, EM is based on a sound theory and is generally regarded as superior to these methods unless the data are missing completely at random, which is seldom the case (Allison, 2002; Schafer & Graham, 2002). We decided to implement missing data on measures that had more than 5% missing data, as case deletion is generally considered acceptable as long as the amount of missing data is below this limit (Schafer, 1997; Tabachnick & Fidell, 2001).

RESULTS
Comparing children of divorce with children from intact families
As Tables 1 and 2 (MI, unconditional models) show, children who lived with a divorced single mother had significantly less favorable outcomes on almost every variable used in this study compared to children who came from intact...
families. The effect sizes (Cohen’s $d$) were in most instances of low to moderate strength, clustering in the 0.25–0.40 range. Looking at the other effect indicator in Tables 1 and 2, Relative Risk (RR), we find a rough but by no means perfect correspondence between the RR-values and the $d$-values. For the majority of variables, RR varied between 1.30 and 2.20, indicating that the risk of a “poor” outcome was increased by 30 to 120% for children of divorce. Although such medium effect sizes were clearly the main finding, there was also some tendency for effect sizes to vary somewhat with area of adjustment, age group (grades 5–6 versus grades 7–9) and gender. It should be noted that for some variables, only data for the older age group were available.

With regard to GPA, effect sizes were $-0.35$ and $-0.43$ for boys and girls, respectively (only grades 8 and 9). Effect sizes centering around 0.35 were obtained in the older subsamples (girls and boys in grades 7–9) for most of the variables measuring externalizing problems. For the younger subsamples, effect sizes were somewhat smaller, in most cases beneath 0.20 and non-significant. On closer examination we found statistically significant family structure (intact/divorced) by age group interactions for Antisocial behavior ($\beta = 0.08$, $t (4066) = 3.18$, $p < 0.01$) and Sanctions by teachers ($\beta = 0.08$, $t (4085) = 3.07$, $p < 0.01$) with higher values for the older age group. An opposite pattern was found for Bullying others which had somewhat higher effect sizes in the youngest age group. A similar trend was found for Being bullied but none of the variables measuring involvement in bully/victim problems showed a significant family structure by age group interaction.

For the variables measuring substance use, effect sizes for both boys and girls were roughly in the same range as for antisocial behavior in the oldest group, varying between 0.24 and 0.37. With regard to Social disintegration, effect sizes were small and non-significant across gender and age group indicating that children living with a divorced single mother had no higher risk of being socially alienated from their peers than children from nuclear families.

No significant family structure by gender interactions were found for any of the outcome variables used in this study. But it is worth noting that there was a tendency in that direction for variables measuring internalizing problems. While girls living with a divorced single mother did not have any increased risk of either Depression or Negative self-evaluations irrespective of age group, this was not the case for their male counterparts. For the boys in both age groups, the effect sizes were significant and varied between 0.24–0.30. A similar tendency was found for the variables measuring ADHD tendencies. With regard to Inattention and Hyperactivity the effect sizes were in the range of 0.31–0.43 for the boys while they were in the range of 0.18–0.29 for the girls. The effect sizes were somewhat lower for Impulsiveness (which was only available for the oldest group), but there was still a gender difference ($0.21$ vs. $0.05$).

Table 2. Boys living with a divorced single mother compared to boys living with both their biological parents

<table>
<thead>
<tr>
<th>Outcome variables</th>
<th>Gr. 5–6 MI*</th>
<th>Gr. 7–9 MI</th>
<th>Gr. 7–9 MII</th>
<th>Gr. 7–9 MIII</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RR</td>
<td>$d$</td>
<td>RR</td>
<td>$d$</td>
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<tr>
<td>Academic problems</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Grade point average</td>
<td>$-1.93^{***}$</td>
<td>$-0.35^{***}$</td>
<td>$1.76^{***}$</td>
<td>$-0.29^{**}$</td>
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<td>Externalizing problems</td>
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<td></td>
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</tr>
<tr>
<td>Antisocial behavior</td>
<td>$1.46^{*}$</td>
<td>$0.24^{*}$</td>
<td>$1.59^{**}$</td>
<td>$0.32^{***}$</td>
</tr>
<tr>
<td>Violent behavior</td>
<td>$1.61^{**}$</td>
<td>$0.21^{**}$</td>
<td>$1.55^{**}$</td>
<td>$0.20^{*}$</td>
</tr>
<tr>
<td>Sanctions by teachers</td>
<td>$1.30$</td>
<td>$0.14$</td>
<td>$1.63^{***}$</td>
<td>$0.38^{***}$</td>
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<tr>
<td>Bullying other</td>
<td>$2.21^{*}$</td>
<td>$0.21^{*}$</td>
<td>$1.30$</td>
<td>$0.07$</td>
</tr>
<tr>
<td>Substance use</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of illegal drugs</td>
<td>$-2.10^{***}$</td>
<td>$0.25^{**}$</td>
<td>$2.07^{***}$</td>
<td>$0.25^{**}$</td>
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<tr>
<td>Regular smoker</td>
<td>$-2.03^{***}$</td>
<td>$0.37^{***}$</td>
<td>$1.90^{***}$</td>
<td>$0.34^{***}$</td>
</tr>
<tr>
<td>Often drunk</td>
<td>$-1.68^{*}$</td>
<td>$0.24^{**}$</td>
<td>$1.68^{*}$</td>
<td>$0.24^{**}$</td>
</tr>
<tr>
<td>ADHD tendencies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inattention</td>
<td>$1.43^{*}$</td>
<td>$0.40^{***}$</td>
<td>$1.41^{*}$</td>
<td>$0.31^{***}$</td>
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<tr>
<td>Hyperactive</td>
<td>$1.29$</td>
<td>$0.43^{***}$</td>
<td>$1.32^{*}$</td>
<td>$0.38^{***}$</td>
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<tr>
<td>Impulsive</td>
<td>$-1.26$</td>
<td>$0.21^{*}$</td>
<td>$1.27$</td>
<td>$0.22^{**}$</td>
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<td>Internalizing problems</td>
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<td>Depressive tendencies</td>
<td>$1.56^{**}$</td>
<td>$0.26^{**}$</td>
<td>$1.28$</td>
<td>$0.24^{**}$</td>
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<tr>
<td>Negative self-evaluations</td>
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<td>$0.30^{**}$</td>
<td>$1.33^{*}$</td>
<td>$0.26^{**}$</td>
</tr>
<tr>
<td>Mixed</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Being bullied</td>
<td>$1.37$</td>
<td>$0.25^{*}$</td>
<td>$1.23$</td>
<td>$0.16^{*}$</td>
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<tr>
<td>Social disintegration</td>
<td>$1.11$</td>
<td>$0.09$</td>
<td>$1.10$</td>
<td>$0.11$</td>
</tr>
</tbody>
</table>

* MI = unconditional model, MII = controlled for father’s and mother’s education, MIII = controlled for MII and current economic resources.

b Only grades 8 and 9.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two tailed).
Comparison with US findings

In putting our results into comparative context, we related them to findings from a great number of mostly US studies, nicely summarized by Amato and Keith (1991b), with an update of findings from the 1990s in Amato (2001). These meta-analyses focus on a comparison of children living in single-parent families formed through divorce or separation with children from continuously intact families. In particular in the first of these articles, being based on more than 300 effect sizes (d-values), the authors made a detailed study of how effect sizes varied as a function of study characteristics. Because results, for natural reasons, were not presented for various combinations of study characteristics, it was not possible for us to find figures in the Amato & Keith tables that correspond exactly to the particular constellation of characteristics of our study. We found it most natural to compare our zero-order effect sizes with the unadjusted (weighted mean) effect sizes for studies from the 1990s in Table III in Amato (2001). Exceptions were made for Academic achievement and Psychological adjustment as the zero-order effect sizes were significantly higher (Amato, 2001, p. 362) than effect sizes obtained when using controls (including parental education) (-0.26 vs. -0.14 and -0.30 vs. -0.17, respectively). For these two areas, we used the effect sizes reported on p. 362 in Amato’s article (-0.26 and -0.30 respectively). The average effect sizes for Academic achievement, Conduct (roughly corresponding to Antisocial behavior), Psychological adjustment (Depression), Self-concept (Negative self-evaluations) and Social relations (Social disintegration) were thus: -0.26, 22, 30, 12, and 0.15 respectively. (To make these data compatible with the results in our tables, the minus sign for the last four effect sizes were removed).

It should be pointed out that several of the characteristics of our study – use of a community sample with a large sample size, and multiple (rather than single) items to measure outcome – were factors that were found to be associated with relatively smaller than average effect sizes (Amato & Keith, 1991b). Also, in his recent meta-analysis, Amato (2001) did not specify the country in which the various studies were conducted. However, as was evident from Table 11 in Amato & Keith, 1991b, the great majority of studies in this meta-analysis came from the United States. If we had used the mean effect sizes for studies exclusively from the United States from this table, the result would have been very similar, except that the values for Psychological adjustment area would have been somewhat smaller than the figure from the 2001 meta-analysis (0.07 versus 0.30). Accordingly, in using the Amato overall estimates for the 1990s as our benchmark, we can be fairly confident that we are not underestimating the size of the effects in the US studies.

The US effect sizes for the five main areas of adjustment are portrayed in Fig. 1 together with weighted effect sizes from our study for key variables representing the same areas, averaged for boys and girls across the two age groups (where relevant).

With regard to Academic achievement (Grade Point Average), the effect sizes from our study were larger than the corresponding figure for the United States, -0.39 versus -0.26. The effect sizes for Conduct (Antisocial behavior) were 0.26 for our study and 0.22 for Amato’s data.

The effect sizes for Psychological adjustment (Depressive tendencies) were smaller in our study 0.19 vs. 0.30 in Amato’s study, whereas the effect size for Self-concept (Negative self-evaluations) were higher in our study than the estimate for the US studies, 0.21 vs. 0.12. As regards Social adjustment (Social disintegration), the effect sizes were somewhat higher in the US compared to our study, 0.15 vs. 0.06.

In addition, our study comprised several partly externalizing behaviors concerning substance use and ADHD tendencies, which may or may not have been included in the meta-analyses of Amato and Amato & Keith. The effect sizes for several of these variables, in particular substance use, centering around 0.28 (five out of six RR’s above 1.75), were larger than the effect sizes obtained in the meta-analyses.

Although our effect sizes were higher for Academic achievement and somewhat lower for Psychological Adjustment the results were surprisingly similar. This was clearly not what was expected.

Parental education

Variables such as paternal education can be considered potential confounders and should therefore be statistically controlled. Empirically, we found that children residing in single-mother households had fathers with significantly lower education than children from intact families (girls: d = 0.26, t (1160) = 3.20, p < 0.01; boys: d = 0.25; t (1203) = 3.09, p < 0.01). Also the mother’s education was lower for children from single-mother families, but not significantly so (girls: p = 0.10; boys: p = 0.12). Data on parental education and current economic resources were not available for the youngest children (grades 5–6), so the analyses in our
Models II and III were only conducted for the oldest age group (grades 7–9).

In Model II, the $d$-values and RRs from the baseline or “unconditional” Model I have been controlled for parental education. The results are presented in columns 5 and 6 in Tables 2 and 3. Generally, the effects of this control were quite weak, and for several of the variables, in particular in the areas of externalizing problems and substance use for girls, the effect sizes actually showed a slight increase. This followed from the fact that (high) parental education correlated positively (but weakly) with the problem variables concerned and negatively with family structure (intact/single-mother family) whereas the latter variable correlated positively with the problem variables. There was thus a suppressive relationship among the variables (see for example, Cohen, Cohen, West & Aiken, 2003; Shrout & Bolger, 2002).

Current economic resources

In our Model III, the family’s current economic status was introduced as a possible mediator of the negative effects of divorce by adding this variable in the regression equations to the variables included in Model II. The amount of reduction of the effect size or RR (or standardized regression coefficient) from Model II to Model III provides an indication of how much of the effects of divorce is mediated or “explained” by the family’s current economic resources. It is of course also possible that the effect size or RR actually may increase in magnitude by adding current economic resources, if there are suppressive relationships among the variables (above).

As mentioned, we here used a newly developed bootstrap technique (Shrout & Bolger, 2002) for testing the significance of possible mediational/suppressor effects. This new approach has the advantage of having more power than most previously recommended methods and being less sensitive to departures from normality. In our discussion, mediational effects are focused on mainly when such effects and the $d$-value in Model II were statistically significant (Baron & Kenny, 1986). Significant mediational effects are marked with one or more asterisks (*), and significant suppressor effects marked with one or more pluses (+) in Table 3.

In our study, the children residing in single-mother households reported clearly poorer economic resources than children in two-parent families (girls: $d = 0.91$, $t(1160) = 11.30$, $p < 0.001$; boys: $d = 0.97$, $t(1203) = 11.96$, $p < 0.001$).

As evident from Tables 1 and 2, there were significant mediational effects for the academic achievement variable (Grade Point Average) for both girls and boys. For girls, the $d$-value in Model II was reduced from $-0.41$ to $-0.23$, and for boys, the reduction was from $-0.29$ to $-0.18$, corresponding to 44% and 38% reductions, respectively. The economic resources variable thus “accounted for” 40–45% of the negative effects of divorce in this area of adjustment. These results are very similar to what has been found in several US studies (Jeynes, 2000; McLanahan, 1997; McLanahan & Sandefur, 1994; Thomson et al., 1994).

For boys, there were also significant mediational effects for the two variables reflecting Internalizing problems, Depressive tendencies and Negative self-evaluations, from 0.22 and 0.26 to 0.16 and 0.20, respectively. For these variables, the reductions were thus somewhat more modest, accounting for 27% and 23% of the negative effects. The mediational effects for the girls were actually fairly similar to these two variables, but this result must be regarded as somewhat uncertain, since the starting $d$-values were not significant (amounting to 0.09 and 0.07 for Depressive tendencies and Negative self-evaluations, respectively).

For girls, there was also a significant mediational effect with regard to Being bullied, with a reduction of the effect size from 0.18 to 0.09. Significant mediational effects of approximately the same magnitude were obtained also for boys, and for both girls and boys with regard to Social disintegration, but, again, it is natural to regard these results as

Table 3. Current economic resources as a mediator/suppressor between family structure and various outcome variables

<table>
<thead>
<tr>
<th>Outcome variable</th>
<th>Early adolescent girls (grades 7–9)</th>
<th>Early adolescent boys (grades 7–9)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mediating effect</td>
<td>95% CI</td>
</tr>
<tr>
<td>Academic achievement*</td>
<td>$-0.07^{**}$</td>
<td>$-0.098, -0.045$</td>
</tr>
<tr>
<td>Regular smoker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often Drunk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressive tendencies</td>
<td>$(0.026^{**})$</td>
<td>$(0.006, 0.048)$</td>
</tr>
<tr>
<td>Negative self-evaluations</td>
<td>$(0.025^{**})$</td>
<td>$(0.007, 0.046)$</td>
</tr>
<tr>
<td>Being bullied</td>
<td>$0.031^{**}$</td>
<td>$0.014, 0.052$</td>
</tr>
<tr>
<td>Social disintegration</td>
<td>$(0.040^{**})$</td>
<td>$(0.022, 0.063)$</td>
</tr>
</tbody>
</table>

* Only grades 8–9.

Notes: Significant mediating effect is denoted by: * $p < 0.05$, ** $p < 0.01$.
Significant suppressor effect is denoted by: + $p < 0.05$.
Figures in parentheses signify a non-significant relationship between family structure and outcome variable before economic resources was entered.

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somewhat more uncertain, since the starting d-values for these variables were relatively small and non-significant.

In addition, there were two significant suppressor effects for boys, with regard to Regular smoker and Often drunk. We will not attempt a substantive interpretation of these effects in the present context.

DISCUSSION

How large are the effects of divorce in the welfare state of Norway?

The results obtained in the present study are in good agreement with what has been documented in other studies (see Emery, 1999; Hetherington & Stanley Hagan, 1999). Compared to children living with both their biological parents, children who lived with a divorced single mother had a small to moderately increased risk of developing a whole range of problems. Even if the effect sizes suggest that the majority of children were functioning reasonably well following a parental divorce, it is also important not to downplay the risk. In the present study children of divorce in the older age group were one and a half to twice as likely as children living with two biological parents to use illegal substances, to drink to get drunk at least two to three times a month, to be smoking regularly and to belong to the worst quartile with respect to violent behavior and having poor school grades.

Earlier research has generally found that children of divorce have a somewhat higher risk of academic and externalizing problems than of internalizing problems or problems with peer relations (see Emery, 1999; Hetherington & Stanley Hagan, 1999). We found some support for this pattern in the present study in that the highest effect sizes were typically found for variables measuring academic and externalizing problems. The difference was, however, somewhat less marked for the boys. The relatively high risk of externalizing problems for the divorced group was most pronounced for children who had reached early adolescence (grades 7 to 9 with modal ages 13 to 15). Children of divorce in this age group had clearly intensified extant problematic behavior among some children of divorce, but also triggered problems among children who had shown few problems before this transition period (see Hetherington & Kelly, 2002).

Comparison with US findings: Are the negative effects of divorce mitigated in a welfare state?

As evident from Fig. 1, the patterns of effect sizes from the United States and Norway were fairly similar for all the areas compared: Academic achievement, Conduct/Antisocial behavior, Psychological adjustment/ Depressive tendencies, Self-concept/Negative self-evaluations, and Social adjustment/ Social disintegration, with no country difference exceeding 0.13 standard deviation units.

The basic similarity of the effect sizes in our study and those of Amato's meta-analysis is clearly not what would be expected in consideration of the fact that the absolute levels of poverty and economic disadvantage are very different for lone mothers in Norway and the United States, as documented in the introductory section. Although it must be realized that the American and Norwegian societies differ in many other respects than welfare benefits and family policies and some of these (unidentified) factors might serve to counteract the negative effects of divorce in US children, it is hardly possible to escape the conclusion that the relatively generous Norwegian welfare system does not seem to mitigate the association between divorce and various problematic outcomes for children and youths. As documented in the article, the standardized differences between children in divorced single-parent and continuously intact families in our study were not substantially different than in other countries, and in particular the United States, where most of the research on the effects of divorce has been conducted. This is an important conclusion which runs counter to what has been commonly believed and argued in both the United States and Scandinavia (Houseknecht & Sastry, 1996; McLanahan, 1997; Simons, 1996; Sorensen, 1999; Wadsby & Svedin, 1996).

However, the results are in good agreement with some relative large contemporary Scandinavian studies which have reported increased risks for children with divorced parents (Breidablik & Meland, 1999; Jonsson & Gahler, 1997). Some other recent studies (Luoma et al., 1999; Nævdal & Thuen, 2004; Weitoft, Hjern, Hagleund & Rosen, 2003) which have not focused upon divorce specifically, but on how children adjust in single-parent families without taking into account the reason for their single-parent status (e.g. divorce, death of other parent, single mother from birth of child) have found similarly increased risks of unfavorable outcomes. As an example, Weitoft and colleagues (2003) found that Swedish adolescents/young adults brought up in single-parent families were (among other things) at a more than doubled risk of having been diagnosed with a psychiatric disease compared to their peers brought up in two-parent families. The most remarkable aspect of this study was that it had an extremely large sample size (nearly one million subjects).
What about the economic deprivation perspective?

In spite of the fact that, at the macro level, the Norwegian family policies and welfare benefits system did not seem to mitigate the negative association between divorce and various negative outcomes in children, our findings with regard to the role of economic factors in mediating or explaining these effects at the individual (family) difference level were surprisingly similar to what has been found in a number of US studies (Jeynes, 2000; McLanahan, 1997; McLanahan & Sandefur, 1994; Simons, 1996; Thomson et al., 1994). As regards academic achievement, introduction of our measure of current economic resources in the regression equation reduced the effect size by approximately 40–45% (a mediational effect from family structure to Grade Point Average via current economic resources). This is in line with two large Swedish studies which also found that control of economic factors reduced much of the increased risk of lower educational attainment among both 16 (Jonsson & Gahler, 1997) and 24–25 year olds (Weitoft et al., 2003) who lived in single-parent households.

With regard to internalizing and externalizing problems and substance use, less empirical research has been conducted, but in similarity with our results, studies usually have found that economic resources have smaller mediational effects than for academic achievement (Brooks-Gunn & Duncan, 1997; Guidubaldi et al., 1983; Hoffmann & Johnson, 1998; McLanahan, 1997; Simons et al., 1999; Thomson et al., 1994; Zill, 1995). We can summarize the pattern of findings in the following way: (a) The association between parental divorce and various negative outcomes were found to be generally very similar in Norway and the United States in spite of the great differences in family policy and welfare benefits for single mothers (at the macro level); and (b) Mediations effects of family economic resources were in both countries most marked for the academic achievement area, and the explanatory power of such variables was quite similar, again in spite of the great differences in absolute level of the economic resources available to single-mother families in the two countries.

How can this somewhat paradoxical pattern of findings be explained?

It is of course possible that the mechanisms involved in the divorce effects are partly different in the United States and Norway (cf. Whitehead, Burstrom & Diderichsen, 2000), although there seems to exist relatively little empirical evidence to support such an interpretation at the moment. A potentially more parsimonious explanation might implicate the distinction between relative and absolute deprivation.

Also in Norway, single-mother families are necessarily among the least well-off families in society, just as a consequence of the fact that there is typically only one breadwinner in the family. Accordingly, the family members in single-mother households are likely to have relatively fewer economic resources available and in a social comparison perspective, at least a certain proportion of them are likely to experience relative deprivation (for example, Walker & Smith, 2002). This term has been defined by Williams (1975, p. 355) in the following way: “Persons may feel they are deprived of some desired state or thing, in comparison with some standard, or with the real or imagined condition of other people”. Also in the United States, a large proportion of single-mother families certainly experience relative deprivation, in addition to the absolute deprivation they experience as a consequence of their divorce-entailed poverty. The thrust of the argument is thus that the lack of difference in divorce effects at the macro level, and the similarity of effects in explaining lowered academic achievement on the individual (family) difference level may in part be explained as a consequence of relative rather than absolute economic deprivation among lone mothers in both countries.

This line of reasoning is supported by several cross-national studies that have examined the relationship between divorce/marital status and well-being (Diener, Gohm, Suh & Oishi, 2000; Mastekaasa, 1994), happiness (Stack & Eshleman, 1998), loneliness (Stack, 1998) and mortality rate (Hue & Goldman, 1990). These studies have consistently reported that being married is found to be an advantage over being divorced or unmarried for women, and with few exceptions, this advantage seems to be very similar across cultures. These results suggest that in most countries, divorce is a stressful experience for the adults involved (Amato, 2001), which in turn could have relatively similar effects on the children, despite economic and cultural differences.

Additional considerations

Although we find it useful to introduce relative deprivation as a possible explanatory concept in order to understand the somewhat paradoxical pattern of findings obtained, we do not think the economic disadvantage perspective (in absolute terms) should be abandoned altogether. When we find that current economic resources account for roughly similar portions of the divorce effects on academic achievement in Norway and the United States, this may indicate that also many divorced mothers in Norway struggle with the consequences of absolute financial hardship, despite living in an advanced welfare state (see e.g., Epland, 2001). Many Norwegian single mothers certainly cannot afford to invest as much in their children’s education, leisure, clothing etc. as more affluent parents are able to. These financial limitations may make the children depressed, frustrated, less knowledgeable or victimized by more financially well-off peers. Furthermore, the economic situation for this group in Norway is probably not improved enough to prevent considerable residential mobility in connection with divorce, leading to more frequent changes of school and additional adjustment tasks. Such a mobility factor has been found to be related to poorer academic and
other outcomes in some studies (Braver, Ellman & Fabricius, 2003; McLanahan & Sandefur, 1994; Moxnes et al., 1999). In addition, many of these parents are probably stressed, irritable, and tired (e.g., Conger et al., 2002; Simons, 1996) due to struggles to make ends meet financially or to constant time pressures due to extensive work hours, for example. This may well translate into poorer parenting quality and/or less investment in the children's school related activities, for example.

Based on such considerations we definitely support policy recommendations and initiatives that would improve the economic situation of members of single parent families, both adults and children, in the United States and elsewhere so that they can live decent and economically reasonable secure lives. However, on the basis of our findings, along with the research suggesting a rather selective effect of poverty (Duncan & Brooks-Gunn, 1997), we doubt that such changes would eliminate or substantially reduce the negative effects associated with divorce.

However, even from a relative deprivation perspective, one would probably expect current family economic resources to account for more variation in academic achievement in the United States than in Norway, since the difference between the financial conditions of divorced and non-divorced families is considerably greater in the United States. When we did not obtain such a result, it is not unreasonable to assume that the economic resources variable in our study (and probably several US studies as well) to some extent also reflects (is a proxy for) other relevant aspects than economic factors, such as for example, belonging to a family with relatively few resources with relevance to the children's academic achievement. Another possibility is that it might reflect troubled intrafamily relationships. (cf. Jeynes, 2002; Mayer, 1997; Whitehead & Holland, 2003). In support of such a view, several longitudinal studies have found that many of the problems that children of divorce show post-divorce, were in fact present prior to the marital dissolution and the post-divorce economic hardships (e.g., Amato & Booth, 1996; Block, Block & Gjerde, 1986; Cherlin et al., 1991).

Briefly on implications

Generally, if the reported pattern of results can be replicated in future methodologically strong studies from Scandinavia, we believe they will cast serious doubts on the value of absolute economic deprivation as a major factor in explaining the negative effects of divorce on children's adjustment. Obviously the reduced income could have a more limited role than what has been assumed by some social scientists in the field. Although we do not think that the absolute economic deprivation or hardship explanation can or should be completely abandoned, our cross-national results indicate that it could possibly have a more modest explanatory role.

Conclusions to the same effect have been advanced in several recent publications (e.g., Hetherington & Kelly, 2002; Jeynes, 2002; Mayer, 1997; Zill, 1995).

Our results and conclusions also cast some doubt on the value of many policy recommendations in this area, largely derived from an absolute economic deprivation perspective. If only the economic insecurity of children growing up in single-parent families could be eliminated through various welfare benefits a good deal of the children's problems associated with divorce would disappear, it has been explicitly argued or implied (Duncan, 1994; Houseknecht & Sastry, 1996; McLanahan, 1997; McLanahan & Sandefur, 1994; Sorensen, 1999; Wadsby & Svedin, 1996). As an example of this position, McLanahan argued that “reducing the economic insecurity of families headed by single mothers is probably the most effective tool for protecting children from the negative consequences of family disruption” (McLanahan, 1997, p. 48). However, almost all of the welfare benefits discussed, and also other similar measures, have already been in place in the Scandinavian welfare states for quite some time (see introductory section and for example, Jonsson & Gahler, 1997). In spite of this, our findings suggest that the negative association between divorce and various problem behaviors was found to be basically similar in Norway and the United States.

Possible limitations

The present study has several strengths. It is based on a relatively large community sample and includes a broad range of outcome variables, the majority of which were measured with adequate or good reliability. However, it contains some possible limitations as well.

One possible limitation is our measure of current economic resources which was a combination of a subjective measure (the child's perception of parental income) and a more objective measure (the kind of house or apartment they lived in). This measure is of unknown construct validity, but it showed meaningful correlations with parental education, family structure (divorced/intact; single-mother/two-parent families), and the child's academic achievement (r = 0.08, 0.19, and −0.32, respectively), for example. In addition, it accounted for similar portions of the effects on academic achievement associated with single-mother status as has been found in studies in the United States using more objective measures. Also, it has been generally argued in the research literature (e.g. Duncan, 1994; Simons, 1996) that perceived income may be a better indicator of the family's actual financial condition than objective income.

Another possible limitation of the present study is that it is based on only one data source (self-report), which may result in some kind of single-source bias. However, many of the outcome variables concerning internalizing problems, antisocial behavior, and substance use, for example, are of such a nature that self-report is the most natural, and very likely also a highly valid, method. And several items refer to relatively objective facts (such as whether the parents have divorced/separated, in what kind of house or apartment they
live in etc.) for which there is little reason to expect distorted responses. Generally, most of the items and scales have been used in several of the second author’s large-scale projects and found to possess good psychometric properties (e.g., Bendixen & Olweus, 1999; Olweus, 1991, 1993; Solberg & Olweus, 2003). Also, in some special analyses related to the measurement of bully/victim behavior, the problem of shared method variance was found to be negligible (Solberg & Olweus, 2003). By and large, it is by no means obvious how the results obtained could be markedly inflated or deflated due to some kind of single-source bias.

REFERENCES

Akker, P. A. M. van den, Halman, L. & Moor, R. (1994). Primary references due to some kind of single-source bias. Olweus, 2003). By and large, it is by no means obvious how the results obtained could be markedly inflated or deflated due to some kind of single-source bias.


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