Abstract  
Objective  The purpose of this 16-year follow-up study was to investigate whether 32-year-old adults who had experienced parental divorce before 16 years of age (n = 317) differed in psychosocial well-being or life trajectories from those from non-divorced two-parent families (n = 1069).  
Method  The data were obtained from a follow-up survey of a Finnish urban age cohort from the age of 16 till 32 years (n = 1471). The long-term impact of parental divorce on a variety of outcomes in adulthood, including psychological well-being, life situation, health behaviour, social networks and support, negative life events and interpersonal problems, was assessed.  
Results  Females from divorced compared to non-divorced families reported more psychological problems (higher scores in the Beck Depression Inventory, General Health Questionnaire and Psychosomatic Symptoms Score) and more problems in their interpersonal relationships. These differences were not found among males. Shorter education, unemployment, divorce, negative life events and more risky health behaviour were more common among subjects of both genders with a background of parental divorce.  
Conclusions  The study revealed that parental divorce is an indicator of sufficient stress in childhood for its influences to persist well into adulthood, possibly with wider scope among females. It is important to recognise specific needs of children in the divorce process in order to prevent or minimize negative consequences and chain reactions during their subsequent life.

Keywords  parental divorce · long-term effects · psychosocial well-being · health behaviour · longitudinal study

Introduction  
The proportion of single-parent families has increased world-wide in the last few decades, mostly due to high divorce rates. In Finland as elsewhere, growing numbers of children endure parental divorce and the severe upheaval of normal family life that results. This may lead to further stressful experiences such as disruption in parent-child relationships, loss of emotional support, economic hardship, as well as numerous other stressful life events such as moving, changing school, losing contact with grandparents and paternal remarriage (Amato 2000). The combined cumulative toll may complicate the child’s psychological maturation process and their adjustment in divorced families.

Detrimental impacts of parental divorce on the life course of offspring may persist into adulthood. It has been suggested that the long-term consequences of parental divorce for adult attainment and quality of life may prove to be more serious than the short-term emotional and social problems noted in childhood (Amato and Keith 1991a). Although a substantial literature exists on the effects of divorce on children and young adults, relatively little is known about the continuing effects of parental divorce in the adult life course. The rare prospective studies of the psychosocial functioning of adults have shown that parental divorce during childhood has a long-term negative impact on adult psychological health, behaviour, socio-economic and marital status, and marital quality (Cherlin et al. 1998; Gilman et al. 2003; Hope et al. 1998; Rogers et al. 1997; Wallerstein and Lewis 2004). However, there is great variability in individual responses to divorce.
Evidence of gender variation in the effects of parental divorce is inconsistent. Many studies have suggested that boys may be more vulnerable than girls to family disruptions in childhood (Guidubaldi and Perry 1985; Hetherington et al. 1997). There is also some suggestion that the reactions of girls to parental divorce in adolescence may be stronger (Cooney et al. 1986), and that the delayed effects in girls of divorce may emerge in adolescence or young adulthood (Rogers 1994; Wallerstein and Corbin 1989; Zill et al. 1993). Some studies on the long-term effects of parental divorce on adult offsprings’ well-being have found parental divorce to be a greater risk for adult females (Glenn and Kramer 1985; McLeod 1991; Rogers 1994), while others have found only minimal or no gender differences (Amato and Keith 1991b; Jönsson et al. 2000; Rogers et al. 1997). There is also some suggestion that males may have more problems in some domains of life situation and well-being, and females in other domains (Amato and Keith 1991a; Zaslow 1989).

Because divorce is becoming an increasingly common experience among children and adolescents of Western countries and seems to result in negative effects on their life chances and health as an adult, we set out to investigate whether parental divorce in childhood had increased long-term mental health vulnerability or led to stressful paths among adults from divorced families. In the previous follow-up phase of this study the same study cohort at 22 years, depression in young adulthood was found to be slightly more common among children from divorced families. Moreover, the life trajectories of these children revealed more stressful paths and more distress in both adolescence and young adulthood. No marked gender differences were found in relation to parental divorce at that age (Aro and Palosaari 1992). In this paper we present results for the same cohort at 32 years of age. The study questions were as follows: Does parental divorce during childhood have long-term consequences on adult psychological well-being, life situation, health behaviour, social networks and support, negative life events and interpersonal problems? Are there gender differences in this long-term adaptation?

### Material and methods

#### Participants

The original study population included all ninth-grade pupils attending secondary schools in the spring of 1983 in Tampere, an industrial and university city in southern Finland with 166,000 inhabitants (n = 2269). These subjects were studied at 16 and 32 years. In the first phase of the study, 2194 pupils (96.7%) aged 16 years (mean 15.9, S. D. 0.3) completed a self-administered questionnaire during school hours. In 1999, postal questionnaires were mailed to the same study population when they were 32 years old. The follow-up cohort totalled 2091 persons (92%), and the response rate was 70.3% (n = 1471). Of the original respondents, 22 had died, five were institutionalised, 14 were unidentifiable because of incomplete or missing identification numbers, and the addresses of 62 were unobtainable. The study protocol was approved by the Ethics Committee of the National Public Health Institute.

The information on parental divorce was obtained via structured questions. Among the 1471 participants in the follow-up phase, 23% had experienced parental divorce prior to the first phase of the study (n = 340). All subjects were divided into two groups for comparison: 1) those who had experienced parental divorce prior to the first phase of the study (before about 16 years of age), and 2) those who had lived their childhood in non-divorced two-parent families. Participants who had experienced parental death in childhood were excluded from the present analyses (n = 80), as were five cases with no information on parental death or divorce. Thus, the final data in the follow-up phase consisted of 317 subjects (178 females, 139 males) from divorced families and 1069 subjects (585 females, 484 males) from non-divorced families. A participant flow chart is presented in Fig. 1. About 44% of the boys and girls experienced parental divorce before school age (under 7 years), 38% at 7–12 years and about a fifth at 13–16 years. In adolescence, more than half of the children from divorced homes lived either with mother alone (in most cases) or with father alone. A third lived with mother and stepfather, and only a few lived with father and stepmother or had other custodial arrangements. About half the children (47%) came from manual class families. The prevalence of parental divorce among subjects from manual class families was 25%, and from non-manual-labour class families 20%.

Comparison of participants (n = 1471) with non-participants (n = 727) in baseline characteristics and responses at baseline showed that the dropout group included more boys than girls (63% vs 37%). Furthermore, pupils who dropped out from the follow-up were more often characterised by poor school performance (range 4–10, mean 7.3, S. D. 0.9 vs mean 7.7, S. D. 0.9), frequent alcohol use (11% vs 6%) and smoking (27% vs 20%). In addition, the non-participant group of females included more from divorced families (non-participants 32% vs participants 24%), although among males there was no such difference (22% vs 23%). Nor were differences found between non-participants and participants of either gender in terms of parental socio-economic status, psychosomatic distress and health status. The predictive effect of gender, family background and SES factors, health and health behaviour on non-response and on the estimation of depression prevalence in this longitudinal survey was studied in detail by Eerola et al. (2005).

#### Measures

The questionnaire at 16 years included questions about psychological and somatic health, health behaviour, family background, personal characteristics, social relationships and life events. In the follow-up at 32 years the questions and scales were presented in similar or age-appropriate versions, and some scales on psychological well-being were added.

#### Family background at 16 years

Family background was assessed with questions related to parental divorce, death and socio-economic status. The information on parental divorce and death was obtained via structured questions. Parental socio-economic status at 16 years was based on the adolescents’ open-ended description of their father’s occupation, or, if this was inappropriate, on the mother’s. In a few cases in which neither’s occupation was available, the assignment of socio-economic status was based on the parents’ education. The categorisation of parental SES as ‘non-manual’ or ‘manual’ was based on the standard classification of occupations (Central Statistical Office of Finland 1975). The ‘non-manual group’ included, for example, teachers, physicians, bank officers and nurses, and the ‘manual group’ included cleaners, industrial workers, drivers and waitresses.

#### Psychological well-being at 32 years

Psychosomatic symptoms were measured using the Psychosomatic Symptoms Scale (Aro 1988). The list covered 17 somatic and psychic complaints frequently used in symptom checklists to reflect stress or...