

The choice between a married or unmarried first union by young adults

A competing risk analysis *

Aart C. Liefbroer

Department of Social Research Methodology, Vrije Universiteit, Koningslaan 22–24, 1075 AD Amsterdam, The Netherlands

Received 17 September 1990; final version received 3 June 1991

Abstract

Liefbroer, A.C., 1991, The choice between a married or unmarried first union by young adults: A competing risks analysis, *European Journal of Population* 7, 273–298.

In this paper the choice between marriage and unmarried cohabitation as a first union by young adults is studied. A hazard analysis is performed on a sample of 590 26-year-old men and women from the Netherlands. Students are much less likely to start a union in general, and marriage in particular, than are other categories of young adults. Young adults living at home are less likely to enter a consensual union than those living on their own. Religious young adults are much less likely to enter a consensual union and much more likely to marry than are non-religious ones. Educational attainments at age 16 do not influence union formation.

Résumé

Liefbroer, A.C., 1991, Le choix des jeunes entre mariage et cohabitation pour leur première union: Une analyse à risques proportionnels (en anglais), *European Journal of Population/Revue Européenne de Démographie* 7, 273–298.

* This paper was mainly written while the author was affiliated with the Department of Social Research Methodology of the Vrije Universiteit of Amsterdam; his current affiliation is with the Netherlands Interdisciplinary Demographic Institute (NIDI), P.O. Box 11650, 2502 AR The Hague, The Netherlands.

Cet article étudie le choix des jeunes adultes entre mariage et cohabitation pour leur première union : une analyse, utilisant un modèle à risques proportionnels, est effectuée sur un échantillon de 590 jeunes hommes et jeunes femmes âgés de 26 ans en Hollande. Les étudiants ont une plus faible probabilité de s'engager dans une union en général, et plus particulièrement dans un mariage, que les autres catégories de jeunes. Les jeunes vivant chez leurs parents ont également une plus faible probabilité d'entrer dans une union consensuelle que ceux vivant indépendamment. Enfin les jeunes qui pratiquent une religion ont une plus faible probabilité d'entrer dans une union consensuelle et une plus forte probabilité de se marier que les non pratiquants. En revanche le niveau d'éducation à 16 ans n'a aucune influence sur les unions à venir.

1. Introduction

During the last two decades, unmarried cohabitation, both as a prelude to marriage and as a more or less permanent alternative to it, has strongly increased in popularity in many European countries, such as Sweden (Hoem, 1986), France (Leridon and Villeneuve-Gokalp, 1989; Leridon, 1990), and the Netherlands (Latten, 1984). The same is true for other industrialized countries, such as the United States of America (Thornton, 1988), Canada (Rao, 1990) and Australia (Khoo, 1987). As an example, Thornton's (1988) analysis of a survey of American men and women born in July 1961, shows that more than one-half of the women and two-thirds of the men who had ever entered a first union up to the age of 23 had chosen unmarried cohabitation.

In the past, in order to explain and predict patterns of union formation, demographers and sociologists focused exclusively on marriage. Consequently, attention was paid to factors influencing both the occurrence and the timing of marriage (e.g. Blossfeld and Huinink, 1989; Cherlin, 1980; Goldscheider and Waite, 1986; Kiernan and Eldridge, 1987). The growing importance of unmarried cohabitation has largely been ignored to date. Only a few studies have incorporated unmarried cohabitation into empirical descriptions of trends in union formation (Hoem and Rennermalm, 1985; Leridon, 1990; Rao, 1990; Thornton, 1988). Even less is known about the impact of social factors on the choice between marriage and unmarried cohabitation. Most research is restricted to a comparison of married and cohabiting persons on a number of social, demographic, or psychological characteristics (Carlson and Klinger, 1987; DeMaris, 1984; Khoo, 1987; Meyer and Schulze, 1988; Newcomb and Bentler, 1980). Only a few

studies focus on determinants of the choice between unmarried cohabitation and marriage (Bernhardt and B. Hoem, 1985; Hoem, 1986; Willems and Vanderhoeft, 1985). Given this paucity of research findings, the aim of this paper is to contribute to the knowledge of factors that influence the choice between marriage and unmarried cohabitation by young adults when starting a first union. Attention will mainly be paid to differences in union formation between young adults with different *social* characteristics.

Two major explanations have been put forward for the growing popularity of unmarried cohabitation since the 1960s. One explanation focuses on *opportunities provided by the social structure* that favour the development of this type of partner relationship. When unmarried cohabitation became popular among students in the United States, this popularity was largely explained by pointing out the differences between students and non-students with regard to the constraints and opportunities facing members of these categories. For instance, Cole (1977, p. 78) suggested 'it is highly likely that the incidence of cohabitation will steadily increase as the opportunities for more freedom in the selection of residence and roommates become more widespread. Many campuses already have coed dorms and generally enforce few, if any restrictions on off-campus housing, twenty-four-hour visitation, etc.' From this point of view, the decision to enter a first union by marriage or by unmarried cohabitation is mainly determined by the social positions of the young adults.

The second major explanation for the rise in unmarried cohabitation focuses on changing *preferences* among young adults. According to this view, more and more young adults hold preferences, attitudes, and opinions that stress individuality and a life-style in which 'traditional' family values occupy a less prominent position. Several complementary explanations for the association between 'modern' family values and unmarried cohabitation have been put forward. Unmarried cohabitation is considered to fit well into this 'modern' life-style for several reasons: because it offers the opportunity to find out how well partners are matched without having to go through all the formalities of marriage, because it avoids the normative expectations attached to marriage, because separation has fewer formalities than marriage, and because unmarried cohabitation is associated with a less traditional, sex-specific division of labour than marriage (Meyer and Schulze, 1988).

Of course these two explanations are not mutually exclusive. Both the social positions of young adults and their preferences may influence their decision to enter a union either by unmarried cohabitation or by marriage. The few studies focusing on these transitions lend some support to such a view. Thus Hoem (1986), using data from the Swedish 1981 Fertility Survey, reports that (female) students have lower marriage and cohabitation intensities than non-students at most ages, though the difference between students and non-students is much larger for marriage than for unmarried cohabitation. This is explained by pointing out that students have less money and less leisure time than non-students, and are also less inclined to commit themselves to a partner relationship, especially to a far-reaching one such as marriage. Another notable finding from this study is that respondents' level of education does not affect either the choice between marriage and unmarried cohabitation or the rate at which respondents enter a union, if their student status is taken into consideration. This suggests that it is not so much the preferences of young adults (which presumably vary with educational level), but their social position that influences the process of union formation. Willems and Vanderhoeft (1985), using Belgian survey data, examine the effects of religiosity and educational attainment on the female's choice between marriage and unmarried cohabitation. They find a strong effect of religiosity, with practising Catholics being much less inclined to start a consensual union than liberal Catholics and agnostics. This suggests that differences in preferences are also important when explaining union formation choices. They also find that the probability of unmarried cohabitation increases with educational level.¹

2. Hypotheses

In this section, hypotheses will be formulated concerning the effects of selected social characteristics on the choice between marriage and unmarried cohabitation. Subsequently there will be a discussion of the implications of the selected characteristics for either the opportunities that young adults have or for their preferences.

¹ It is not clear how this effect of educational level is to be interpreted, as Willems and Vanderhoeft did not include a variable in the analysis indicating the student status of respondents.

(1) *Education and work.* A number of studies have shown that being a student diminishes the propensity to marry (Blossfeld and Huinink, 1989; Cherlin, 1980; Goldscheider and Waite, 1986; Hoem, 1986; MacDonald and Rindfuss, 1981; Waite and Spitze, 1981). As noted above, Hoem (1986) suggests three reasons for this. Compared to non-students, students generally have less money, less leisure time, and are less prone to enter into far-reaching commitments. Although being a student may also diminish a young adult's propensity to start a consensual union, there are a number of reasons to expect that the formation of a consensual union is much more compatible with being a student than is marriage. Firstly, starting a consensual union is less costly than marriage, because one does not have to pay for a wedding. Secondly, expectations about appropriate conduct, e.g. concerning participation as a couple in kin-related events or about furnishing a house, are often less elaborate for cohabiting couples than for married ones, which may lead to a reduction in time and money spent in living up to these expectations. Finally, because of the assumed greater freedom and autonomy within consensual unions, students may feel that they will be better able to combine their study, their partner relationship, and their other student-related activities, within such a union than within marriage.

Students usually have low incomes. But the same is true for young adults who are unemployed. Therefore, it might be expected that the unemployed will also be less inclined to start a union, and when they do start one, that they will prefer unmarried cohabitation to marriage. This is in line with Khoo's (1987) study who found that among 18- to 34-year-old Australians living in consensual unions, about 7% are unemployed, while among those married in the same cohort, only 1% are unemployed.

The reverse side of a low propensity on the part of students and unemployed to start a union, particularly marriage, is a relatively high propensity among young adults with a paid job to start a partner relationship, particularly marriage. Employed young adults usually have more money at their disposal than their unemployed or student counterparts. Thus, financing the wedding and conforming to the life-style of couples is less of a problem for them than for unemployed young adults or students. Another reason for employed young adults to prefer marriage to unmarried cohabitation may be that, in comparison with young adults who are still involved in finishing their education,

they plan to become parents relatively soon. In many countries, including the Netherlands, the incidence of parenthood among persons living in consensual unions is very low. Whether for practical or emotional reasons, many persons still prefer marriage to unmarried cohabitation when they have children.

(2) *Living arrangements.* Whether or not young adults live with their parents may also influence the choice between marriage and unmarried cohabitation. In many cases, parents of young adults have a less favourable attitude towards unmarried cohabitation than the young adults themselves (Liefbroer, 1989). When young adults live at home, they are more exposed to these attitudes and may also be more inclined to conform to the opinion of their parents because they are more dependent on them than when living on their own. This may lead to higher rates of marriage among young adults living in the parental home, than among young adults living on their own. Furthermore, Goldscheider and Waite (1987) found that young adults who have experience in living on their own are less inclined to marry, presumably because they have come to value independence and autonomy more than young adults living with their parents, and thus may feel that marriage would infringe upon their independence. In contrast, young adults living at home may view marriage as a route to more independence and autonomy.

(3) *Religiosity.* The dominant view within Christianity for a long time has been that marriage is the only acceptable type of union for a sexual relationship (Francoeur, 1983; Van Eupen, 1985). According to this view, unmarried cohabitation is unacceptable. Partly in reaction to trends towards secularization and cultural pluralism, this highly normative view has been changing in a number (but not all) of religious denominations, resulting in a somewhat more tolerant attitude towards unmarried cohabitation. This is a fairly recent trend, however, and thus it may be expected that many religious persons still adhere to fairly unfavourable attitudes towards unmarried cohabitation, and prefer marriage to unmarried cohabitation. As noted, findings by Willems and Vanderhoeft (1985) support this view.

(4) *Level of education.* In most countries, the recent trend towards unmarried cohabitation started among highly-educated students. There

are two explanations for this. The first one, discussed previously, suggests that students are more likely to start a consensual union because of the specific restrictions and opportunities they face. A second explanation focuses on the different preferences of young adults with high and low educational attainments. Presumably, highly-educated young adults value independence and autonomy more than young adults with low levels of educational attainment (Meyer and Schulze, 1988). Furthermore, a person's ability to adopt flexible and innovative behaviour increases with educational level (Gecas, 1979; Kohn, 1969). Because unmarried cohabitation can be viewed as relatively innovative behaviour, young adults with a high level of education are more prone to start a consensual union than are young adults with a low level of education. Findings from the study by Willems and Vanderhoeft (1985) support this contention. However, Hoem's (1986) study of unmarried cohabitation and marriage among Swedish women failed to lend support to this. Sweden could perhaps constitute a special case. Unmarried cohabitation originated in the working class in that country, and not in the upper classes.

(5) *Gender*. In most countries, females start the process of union formation at younger ages than males. This holds for marriage, as well as for unmarried cohabitation (Thornton, 1988). Thus the age patterns of the marriage and cohabitation rates of males and females should differ. Furthermore, I expect there will be gender differences in the effect of student and employment statuses on the choice between marriage and unmarried cohabitation.

The general hypothesis, mentioned earlier, has been formulated that having a paid job would raise the attractiveness of starting a union, but that this effect would be much stronger for marriage than for unmarried cohabitation. Highly-educated women, whose aim is a successful career, could form an exception to this rule by being less inclined to marry. They may associate marriage with a traditional sex-specific division of household chores. Such a division of labour is disadvantageous for women who want to pursue a career. For these reasons, some of these women may not want to start a partner relationship at all (Oppenheimer, 1988). Others may feel that their bargaining position vis-à-vis their partner is stronger if they live in a consensual union than if they are married, because they can more credibly threaten to end the relationship if a fair division of labour is not realized. On the other

hand, for working women with a low level of education, becoming a housewife may actually be a preferred option because it liberates them from a menial or boring paid job. Thus I expect that highly-educated working women will be less inclined to marry and more inclined to start a consensual union than working women with a lower level of education.

3. Method

3.1. Respondents

Data for this study were collected between September 1987 and February 1988 from 1,775 young adults living in the Netherlands, as part of a longitudinal research project examining the process of social integration of young adults (see Dijkstra, 1989, for more information). Almost equal numbers of women and men, from the 1961, 1965, and 1969 birth cohorts took part in the survey. Thus, respondents were about 18, 22 and 26 years of age at the time of interviewing. Their names and addresses were obtained by taking random samples, stratified by gender and year of birth, from the population registers of 25 municipalities in the Netherlands. These municipalities formed a random sample of all Dutch municipalities, stratified by degree of urbanization and region. The response rate of the sample was 63.4%; 27.2% refused to participate, 3.1% were unable to participate, and 6.3% were never reached.

Although the rate of non-response was high, this (regrettably) is not uncommon in surveys conducted in the Netherlands nowadays. For instance, Bethlehem and Kersten (1986) report non-response rates varying between 23% and 42% in surveys conducted by the Netherlands Central Bureau of Statistics. To shed light on the possibly selective nature of the non-response, Liefbroer (1991) compared characteristics of the respondents with population characteristics. Respondents of non-Dutch ethnic origin were underrepresented in the survey. However, persons of non-Dutch ethnic origin comprise only about five percent of the total Dutch population. Furthermore, the percentage of 26-year-old married women and men exceeded that in the population by four percent and seven percent, respectively. Because the differences between the respondents and the population appeared to be relatively

minor, it was decided not to weight the sample. As Hoem (1985) notes, the bias introduced by non-response selectivity could be relatively harmless, provided that selectivity is minor. However, as he also notes, not much is known about this issue at present.

The survey consisted of an interview and a self-administered questionnaire. The interviews were conducted in the respondents' homes. The average duration of the interviews was one hour and forty-five minutes. A questionnaire was sent to the respondents, in advance, so that it could be filled in and returned to the interviewer before the interview took place. Both the questionnaire and the interview contained questions about attitudes and behaviour concerning leaving the parental home, education, work and unemployment, partner relationships, and parenthood. Among others things, complete life histories were recorded concerning education and work, partner relationships, household changes after leaving the parental home, and parenthood, up till the moment of interviewing. Additional questions were asked about support networks, personality, and well-being.

In this paper, the analysis is restricted to young adults born in 1961, who were about 26 years of age at the time of interviewing ($N = 590$). The reason for this restriction is twofold. Firstly, the number of respondents in the youngest cohort who are involved in a partner relationship is negligible. Secondly, making a single analysis of all three cohorts would mean that additional attention would have to be paid to cohort differences in union formation. This would complicate both the theoretical discussion and the presentation of the results. Therefore, I decided to concentrate on the oldest birth cohort and to study cohort differences at a later stage.

3.2. Procedure

To study the process of union formation, the hazard rate of entering into a union will be modelled as depending on the type of union young adults start (i.e. whether they start a union by unmarried cohabitation or by marriage), on their age, and on a number of social characteristics. A hazard rate refers to the 'probability' that an event will occur within an infinitesimally small interval, given that this event has not occurred for the individual before the start of that interval. In this study, a piecewise constant hazard rate is assumed, that is, the hazard rate is assumed to be constant within predetermined time-intervals and al-

lowed to vary between these intervals. Utilizing discrete time intervals and categorical covariates, standard loglinear techniques, as described by Bishop et al. (1975) or Fienberg (1980), can be used to estimate such models. The use of these methods to model hazard rates is described by Laird and Oliver (1981), and extended to competing risks models by Larson (1984). Applications can be found in Gomez de Leon and Potter (1989) and Hoem (1986).

Within the loglinear model, the hazard in any specified category can be represented as resulting from contributions by each of the different covariates. For example, let the rate of first union formation be dependent on three covariates, in this case, the type of union (C_j , with $j = 1$ for marriage and $j = 2$ for unmarried cohabitation), the age of the respondents (T_k , with $k = 1, \dots, K$), and the young adults' living arrangements (L_l , with $l = 1$ for living at home and $l = 2$ for living on their own). Given the usual U -term notation and ANOVA-like restrictions of loglinear models (Fienberg, 1980), the model for the hazard rate in each category can be written (Gomez de Leon and Potter, 1989) as

$$\log \lambda_{jkl} = U + U_{C(j)} + U_{T(k)} + U_{L(l)} + U_{CT(jk)} + U_{CL(jl)} \\ + U_{TL(kl)} + U_{CTL(jkl)}.$$

The use of a loglinear model has several advantages compared to other possible models, e.g. a Cox model. Firstly, it is easy to test whether higher-order U -terms can be set to zero by applying standard log-likelihood ratio tests. That way interactions between covariates as well as proportional hazards can be sought (In the latter case, $U_{CT(jk)}$ and $U_{TL(kl)}$ and/or $U_{CTL(jkl)}$ must be zero). Thus, in contrast to the proportional hazards approach, the loglinear approach has the advantage of *testing* for proportional effects, rather than assuming them. An additional advantage of using this approach is that *competing risks* (Hachen, 1988) can be considered within one analysis (Larson, 1984). By including type of union as just another covariate in the analysis, it is possible to test whether the effects of social characteristics on the process of union formation vary according to the type of union that is entered. In most types of hazard analysis, the same analysis must be conducted for each competing risk separately, and then the strength of the parameter estimates must be compared.

Model-fitting was performed using LOGLIN (Oliver and Neff, 1976). Models, including time-constant and time-varying covariates were fitted to the transition rate of entering a first union. The construction of the covariates will be discussed next.

3.3. *Measures*

3.3.1. *Timing and type of first union*

By combining questions on the respondents' household composition and their current partner relationship, the timing of their first union and whether this was a married or unmarried one was determined. The timing of a union was recorded in months. Persons who had not started a union were treated as censored at the month of interviewing. Four age intervals were created: 18 and 19 years of age, 20 and 21 years of age, 22 and 23 years of age, and 24 years of age and older. The hazard rate is assumed to be constant within these intervals and allowed to vary between them.

3.3.2. *Education and work*

Using information about the respondents' educational and professional career, a time-varying variable indicating main activity status was created. Firstly, it was determined whether or not the young adults were enrolled in an educational program, and if so, whether this was full-time or part-time. Secondly, it was determined whether they were employed for at least twenty hours a week.² On the basis of this information, three categories of respondents were distinguished. One category consisted of respondents who were neither students nor had paid jobs for twenty hours a week or more. This category consisted primarily of *unemployed* young adults, because there were only few young adults who had homemaking as their sole activity. A second category consisted of young adults who were full- or part-time *students* and were not employed for twenty hours a week or more. A third category consisted of young adults who were *employed* for at least twenty hours a week, irrespective of whether or not they were also

² Preliminary analyses using more detailed categorizations of both the employment status and the educational status variables were carried out as well. However, they resulted in very low cell frequencies and no substantially different results. For that reason, it was decided to use broader categorizations.

enrolled in an educational program. The activity status at the time he or she started a first union, and the number of person-months spent in each of these statuses was ascertained for each respondent.

3.3.3. *Living arrangements*

Using information on their household history, a time-varying variable was created which indicated whether young adults lived in their parental home. Again, both the number of person-months spent in either state and whether union formation took place directly from the parental home or while living on their own was ascertained for each respondent.

3.3.4. *Religiosity*

Respondents were asked how often they went to church at the time of the interview.³ Answers were categorized as relatively often (once a month or more) or relatively seldom or never (less than once a month). This measure was preferred to a measure of whether or not respondents were a member of a religious denomination. In my view, religious activity is a better indicator of the importance of (institutionalized) religion in a person's life (Rao, 1990). As a result of secularization, a growing proportion of people (and especially young adults) are nominal members who do not participate in religious activities.

3.3.5. *Educational level*

The educational level of respondents was categorized according to the level of the school they attended at the age of 16. Thus a time-constant variable was constructed with three categories: low educational level, medium educational level, and high educational level.⁴ Respondents whose educational level was categorized as low went to schools

³ This indicator is measured at the time of interview and thus it has to be assumed that it is time-constant in order to be used in an analysis aimed at predicting behaviour which, in many instances, has taken place before the interview. Although changes in religious activity and in religiosity itself are likely to occur to some young adults, both as a result of conversion and of church-leaving, I generally expect that this indicator successfully captures the respondents' basic attitude towards church-related religiosity during the life period under investigation.

⁴ Another option was the construction of a time-varying covariate. In that case, a number of important problems would arise. The main problem concerns the decision whether to look at the level of schooling the respondents are *currently* attending or at the level of schooling they have successfully *completed*. If one opts for the first solution, the level of schooling at any moment equals the highest level of schooling one has been attending up to that moment. This means,

preparing them for blue-collar jobs. Most of them had attained relatively little additional education. Respondents whose educational level was categorized as medium followed advanced elementary education. Respondents whose educational level was categorized as high went to higher general secondary education, preparing them for a university or comparable education. Many of them end up in managerial positions.

4. Results

4.1. *Descriptive results of the union formation process*

It was suggested in the introduction that unmarried cohabitation has become a relatively popular type of a union. To what extent is this true for this cohort of young adults? To gain insight into this question, figs. 1 and 2 show the proportion of young female and male adults, respectively, that have ever entered a first union at specific ages. As these figures show, unmarried cohabitation constitutes the major type of union for this cohort. By the age of 26, almost 80% of this cohort have ever entered a first union. Almost two-thirds did so by starting a consensual union, while the remaining one-third did so by marriage. What becomes clear as well is that, not surprisingly, union formation starts earlier for women than for men.

4.2. *Results of the multivariate analysis*

Model-fitting was guided by a search for a hierarchical model that included the smallest number of interaction and main effects accounting for the rate of entry into a union. The parameters for the selected model are presented in table 1. This model shows a satisfying fit. Firstly, the effects of each covariate will be discussed. Next, a number

however, that respondents who drop out of an institution of higher education relatively soon (e.g. after spending half a year at a university), will keep this relatively high score throughout. The alternative, that is, using the highest level of schooling a respondent has successfully completed up to that moment, also has a drawback. Respondents attending a relatively high-level educational institution will keep a relatively low score for too long, because it will take them quite a long time to complete this schooling. Given that educational level in this analysis is used as an indicator of the respondents' intellectual competence I feel it is appropriate to use their educational level at age 16. This measure should provide relatively good discrimination with regard to intellectual competence.

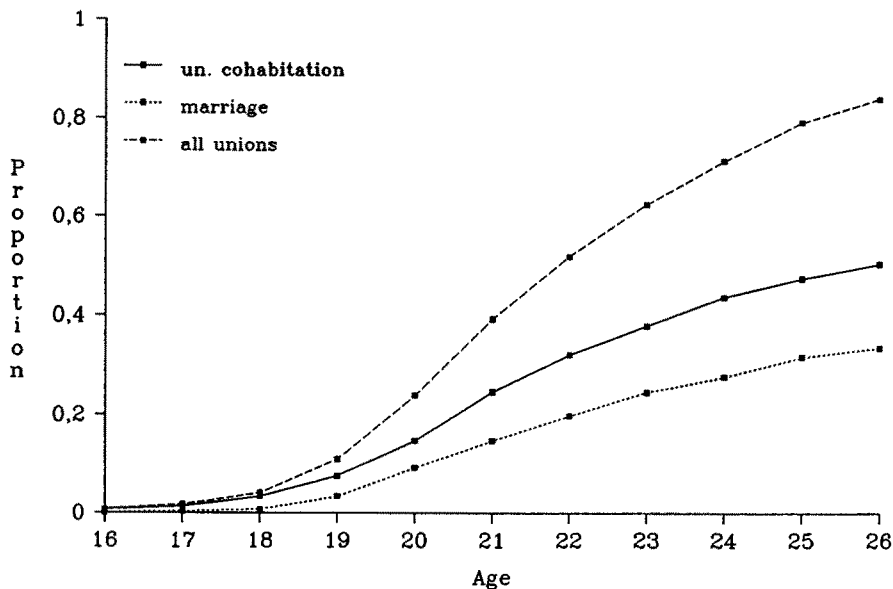


Fig. 1. Cumulative proportion of female young adults who have ever started a (married or unmarried) first union at a specified age.

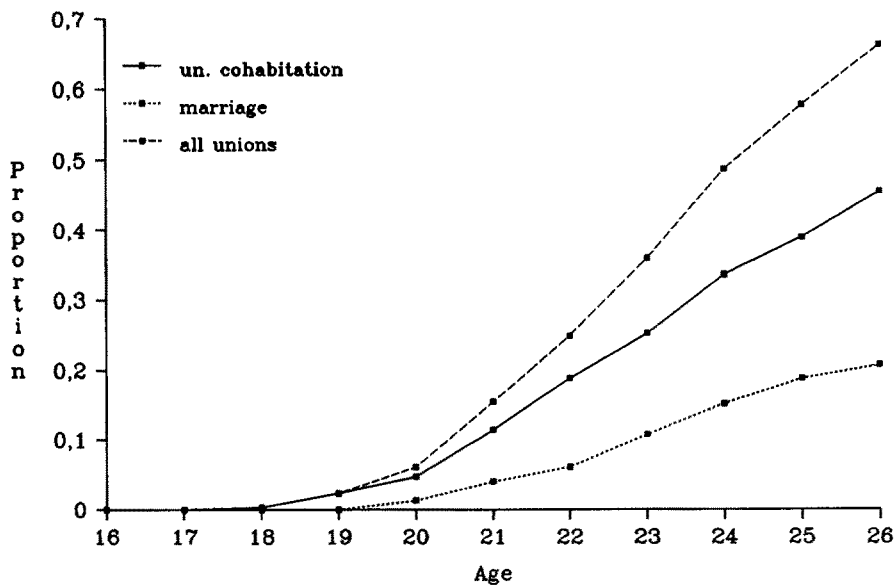


Fig. 2. Cumulative proportion of male young adults who have ever started a (married or unmarried) first union at a specified age.

Table 1

Parameter estimates and standard errors (within parentheses) for the effect of selected covariates on the hazard of entering a first union.

<i>U</i> -parameter	Estimates
Constant	- 5.542 (0.047)
Unmarried cohabitation	0.259 (0.104)
Marriage	- 0.259 (0.104)
Females	0.356 (0.053)
Males	- 0.356 (0.053)
18-19 years of age	- 0.685 (0.119)
20-21 years of age	0.135 (0.086)
22-23 years of age	0.242 (0.090)
24-26 years of age	0.309 (0.095)
Unemployed	0.373 (0.112)
Students	- 0.904 (0.153)
Employed	0.531 (0.093)
Living at home	0.008 (0.062)
Living on their own	- 0.008 (0.062)
Low religiosity	0.114 (0.071)
High religiosity	- 0.114 (0.071)
Unmarried cohabitation × Unemployed	- 0.204 (0.112)
Unmarried cohabitation × Students	0.433 (0.152)
Unmarried cohabitation × Employed	- 0.228 (0.092)
Unmarried cohabitation × Living at home	- 0.245 (0.060)
Unmarried cohabitation × Living on their own	0.245 (0.060)
Unmarried cohabitation × Low religiosity	0.511 (0.071)
Unmarried cohabitation × High religiosity _i	- 0.511 (0.071)
Females × 18-19 years of age	0.373 (0.107)
Females × 20-21 years of age	0.008 (0.081)
Females × 22-23 years of age	- 0.186 (0.083)
Females × 24-26 years of age	- 0.196 (0.091)
Living at home × 18-19 years of age	- 0.151 (0.102)
Living at home × 20-21 years of age	- 0.205 (0.082)
Living at home × 22-23 years of age	0.071 (0.088)
Living at home × 24-26 years of age	0.285 (0.092)
Likelihood ratio = 441.2 <i>df</i> = 482 <i>p</i> = 0.91	

Note: To save space, only half of the interaction estimates are shown. For those missing, it holds that $u_{21} = -u_{11}$, $u_{22} = -u_{21}$, etc. E.g., $u_{(\text{marriage} \times \text{low religiosity})} = -u_{(\text{unmarried cohabitation} \times \text{low religiosity})} = -0.511$.

Table 2
Relative risks of entering a first union for males and females in different age groups.

	Age			
	18–19	20–21	22–23	24–26
Females	0.97	1.53	1.40	1.49
Males	0.23	0.74	1.00 ^a	1.08

^a Baseline category.

of overall comparisons of the strength of the estimated effects will be made.

Union formation patterns differ for males and females. The significant main effect for gender indicates that females generally have higher rates of entry into a union during young adulthood than do males. The significant interaction effect between gender and age indicates, however, that the ratio between the rates of males and females varies with age. Table 2 shows the average relative risks of entering a union for males and females, by age.

Before commenting on the results presented in table 2, I will outline how the figures in this table and in the following ones should be read. The figures represent the relative risks of entering a union for males and females at different ages. They show the relative risks of entering a union, for both males and females, within all categories of covariates that are not included in the table. For ease of comparison, one of the categories has been assigned a relative risk of 1.00. The risks in different categories can be easily compared to one another by taking their ratios. Thus, at ages 18 and 19 females are 0.97/0.23 as likely to enter a union as males. Furthermore, females at age 20 and 21 have about the same rate of entry into a union as females aged 24 and over.

The results in table 2 show that the union formation rates of females and males differ strongly at young ages, e.g. among 18- and 19-year-olds, females are about four times as likely to start a union as males. This difference is reduced, however, with increasing age. At age 20 and 21, the odds are about two to one in favour of females and after age 21 females are about forty percent more likely to enter a union than males. Probably the rates of males will not surpass those of females until their late twenties. Furthermore, the figures in table 2 show that females have a fairly constant risk of entering a union during their twenties,

Table 3
Relative risks of entering marriage and unmarried cohabitation for students, employed, and unemployed.

	Marriage	Unmarried cohabitation
Unemployed	0.83	0.93
Studying	0.12	0.49
Employed	1.00 ^a	1.06

^a Baseline category.

whereas males start with very low risks and show increasing risks throughout the observed period.

No other significant interaction effects of gender were observed. This implies that the effect of other covariates on the union formation process are the same for both genders.

Whether respondents are students, employed, or unemployed has major implications for their union formation behaviour. The average relative risks for these categories of entering marriage and unmarried cohabitation are shown in table 3.

The first conclusion that can be drawn from table 3 is that students are much less likely to start a union than are either employed or unemployed young adults. This is true for both marriage and unmarried cohabitation, but the difference is most striking in the case of marriage. Respondents who are only involved in part-time or full-time education are about eight times less likely to marry than respondents who have a job of twenty hours a week or more. With regard to unmarried cohabitation, students are about two times less likely to start a union than are young adults who are employed. This suggests that, although being a student strongly reduces the odds of starting a union, this is particularly true with regard to marriage. Another result indicated in table 3 is that the unemployed have marriage and unmarried cohabitation rates that are only slightly lower than those of the employed. Thus, being unemployed hardly seems to result in a deceleration of the union formation process.

As can be seen in table 3, on average, both the unemployed and the employed slightly prefer unmarried cohabitation to marriage. But the relative preference for unmarried cohabitation to marriage is much stronger for students. Although they are much less likely to enter a union than either the employed or the unemployed, when they do so

Table 4

Relative risks of entering marriage and unmarried cohabitation for respondents living at home and respondents living on their own, in different age groups.

	Age			
	18–19	20–21	22–23	24–26
Living in the parental home				
Marriage	0.32	0.68	1.00 ^a	1.32
Unmarried cohabitation	0.33	0.70	1.03	1.36
Living on their own				
Marriage	0.26	0.62	0.52	0.45
Unmarried cohabitation	0.71	1.70	1.43	1.24

^a Baseline category.

they strongly prefer unmarried cohabitation. In general, students are about four times (0.49/0.12) as likely to enter a union by unmarried cohabitation as by marriage.

It was hypothesized that marriage would be much less popular among highly-educated employed women than among employed women with low levels of education. In view of this, a check was performed on whether there was an interaction between activity status, educational level, and gender. No such interaction was found, however.

Although the main effect for living arrangement is not significant, significant interactions between living arrangement and age, and between living arrangement and type of union, are found. Table 4 shows relative risks of entering marriage and of entering unmarried cohabitation for respondents living in the parental home and for respondents living on their own, by age.

On average, respondents living in the parental home are about as likely to marry as to start a consensual union, whereas respondents living on their own are about three times as likely to start a consensual union as to marry. As far as age patterns are concerned, young respondents living in the parental home are somewhat less likely to start a union than are respondents living on their own. Furthermore, the risks of entry into a union increase monotonically for respondents living in the parental home, but they first increase and then decrease for respondents living on their own. Respondents who live in their parental home seem to become more and more eager to leave the parental home and to start living with a partner as they become older. Respondents who live on their own show the opposite pattern.

Table 5

Relative risks of entering marriage and unmarried cohabitation for respondents who are high and low in religiosity.

	Marriage	Unmarried cohabitation
High religiosity	1.00 ^a	0.60
Low religiosity	0.45	2.11

^a Baseline category.

It was expected that religious young adults would prefer marriage to unmarried cohabitation and thus would have lower cohabitation rates and higher marriages rates than non-religious young adults.

The main effect for religiosity is not significant. Thus, religious and non-religious respondents do not differ in their overall rates of starting a union. They do differ, however, in their choice between marriage and unmarried cohabitation. The relative risks for both types of union are shown in table 5. In line with the hypothesis, religious respondents have average marriage rates that are more than twice as high and cohabitation rates that are about three times as low as those of non-religious respondents.

Up till now, results have only been presented for subsets of covariates. Now some overall contrasts between different subcategories will be discussed. The strongly divergent union formation patterns of two contrasting categories will be shown: those of males and females living in the parental home, having a paid job, and being highly religious (group 1) on the one hand, and those of males and females living on their own, following an education, and being low in religiosity (group 2) on the other. First of all, fig. 3 shows their respective marriage rates. As can be seen, those of males and females who are religious, employed, and live at home are fairly high. However, hardly any respondents who are non-religious, live on their own, and are students are expected to enter a first union by marriage.

Fig. 4 shows unmarried cohabitation rates for the same categories. The observed pattern is quite different from that in fig. 3. Although the differences between the selected categories are much smaller than in fig. 3, now males and females who are studying, live on their own, and are non-religious show higher rates than their counterparts who live at home, are employed, and highly religious. Furthermore, it can be very clearly observed that unmarried cohabitation rates for respondents

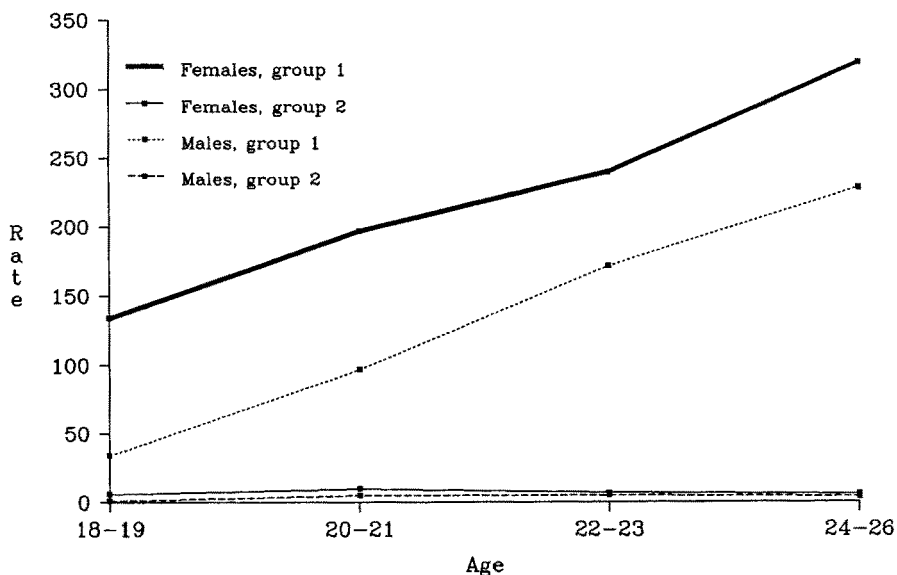


Fig. 3. Marriage rates (per 1,000 persons per year) for females and males who are employed, religious, and live at home (group 1) and for females and males who are students, non-religious, and live on their own (group 2).

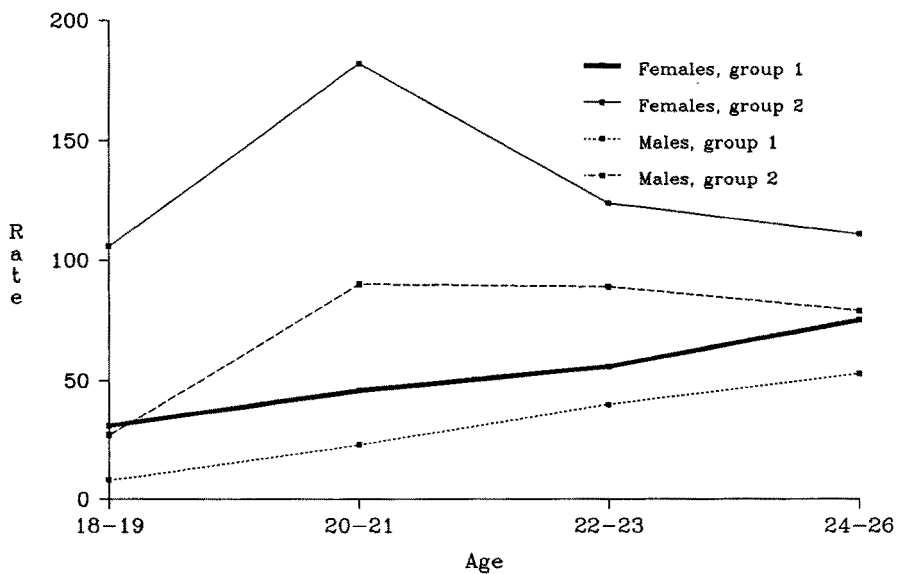


Fig. 4. Unmarried cohabitation rates (per 1,000 persons per year) for females and males who are employed, religious, and live at home (group 1) and for females and males who are students, non-religious, and live on their own (group 2).

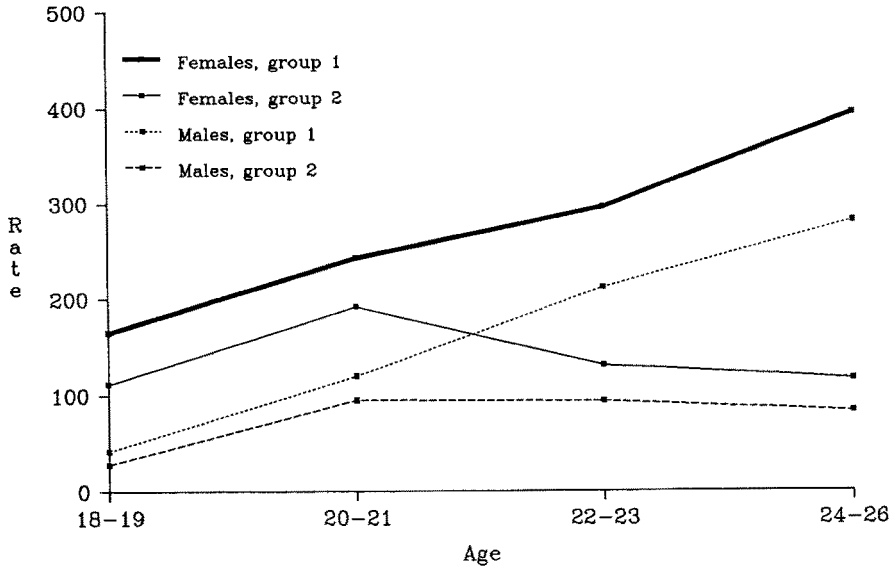


Fig. 5. Total first union rates (per 1,000 persons per year) for females and males who are employed, religious, and live at home (group 1) and for females and males who are students, non-religious, and live on their own (group 2).

living on their own first increase and then decrease. None of the categories shown in fig. 4 has high rates of unmarried cohabitation. But this does not imply that there are no categories with high rates of unmarried cohabitation. Respondents who are non-religious, live on their own, and employed, show very high rates (up to 400 per 1,000 per year for women aged 22 and 23).

Finally, fig. 5 shows the total expected rates of entering a first union (whether by marriage or by unmarried cohabitation) for the selected categories. Again the patterns are very divergent. This is mainly caused by the fact that students have very low rates of entering a union.

5. Discussion

In this paper attention has been paid to the effects of several social characteristics of young adults on their union formation behaviour. The focus was on the importance of social-structural constraints and opportunities on the one hand, and personal preferences and values on the other for the young adults' choice between marriage and unmarried

cohabitation as a first union. The results show that both constraints and preferences are of importance in explaining this choice.

Union formation by young adults was expected to depend partly on the social positions they occupied. It was hypothesized that young adults with a paid job would be more likely to enter a first union than would young adults involved in full- or part-time schooling. It was also expected that the difference between employed and studying young adults would be greater with respect to marriage than with respect to unmarried cohabitation. The results are in line with this hypothesis. On average, students are about two times less likely to cohabit unmarried and even about eight times less likely to marry than employed young adults. Contrary to the hypothesis, however, the unemployed barely differ from the employed. Being unemployed hardly slows down the union formation process. A possible explanation could be that most of the unemployed respondents do not view their situation as permanent, but rather as temporary. In the latter case, they would not allow a major decision such as the start of a union to be influenced by their unemployment. Furthermore, for some unemployed, the start of a union would probably improve their financial position. In these cases, their current financial position does not act as an inhibition to, but more as an accelerator of, the union formation process.

It was expected that young adults living at home would be less inclined to cohabit unmarried and more inclined to marry than young adults living independently. The results both confirm and qualify this expectation. It seems that living independently promotes the start of a union, especially during the earlier part of young adulthood. This might result from the fact that young adults living on their own are independent sooner than young adults living at home, and thus make a decision to start a partner relationship sooner as well. A complementary reason could be that having a household of their own facilitates the transformation of a dating relationship into a union, because accommodation is already available. The drop in marriage and unmarried cohabitation rates for young adults living on their own after age 21 could perhaps be attributed to some kind of 'selection' effect. Young adults living on their own, who have not entered a first union by that age, might constitute a group that is strongly committed to independence, and thus relatively unwilling to enter a union.

Whether young adults are religiously involved or not seems to be of utmost importance for their choice of a union type. Religious young

adults are much more inclined to marry and much less inclined to enter a consensual union than non-religious ones. Thus, even though the proportion of young adults who are religious is diminishing in most European countries, as far as union formation is concerned, the impact of religion on its adherents still appears to be relatively strong.

The educational level of young adults at age 16 was used as an indicator of the intellectual and cultural competence of young adults. It was hypothesized that the higher the educational level, the less likely young adults would be to marry and the more likely they would be to enter a consensual union. These expectations were not confirmed. An interesting aspect of including both a measure of whether young adults are involved in education or not, and of their educational level, is that it is possible to compare the impact of both factors. It seems that it is not so much the young adult's *level* of education that is of importance in determining their union formation behaviour, but rather whether or not they are students per se that determines this behaviour. This is in line with findings from Blossfeld and Huinink (1989) and Hoem (1986).

Males and females show strongly divergent age patterns. Females are much more likely to enter a union than males, especially at young ages. Interestingly, no other gender differences were found in this analysis. Thus the union formation behaviour of both genders seems to be determined by the same factors. In particular, highly-educated women are not found to behave differently from others. Care has to be taken, however, in dismissing all possible differences between highly-educated women and other women. The number of respondents in these specific categories is quite low.

The results make it clear that there are strong social differentials in union formation behaviour. As expected, differences in the social positions young adults occupy and in their preferences as indicated by religiosity, influence union formation patterns, both with regard to the timing of union formation and the choice between marriage and unmarried cohabitation. An interesting question for future research is to what extent cohort changes in union formation patterns can be attributed to changes in social positions of young adults, and to what extent they can be attributed to changes in preferences.

Acknowledgements

This publication is based on data collected as part of the research program: 'The Process of Social Integration of Young Adults' (SI

project). This research program is executed jointly by the Department of Social Research Methodology and the Department of Work- and Organisational Psychology of the Vrije Universiteit, Amsterdam.

A previous version of this paper was presented at the workshop 'Applications of the Life Course Approach to Household Dynamics in Contemporary Europe', sponsored by the European Science Foundation, Network on Demography and Social Change, in Ghent, from 7–9 June 1990. The author would like to thank the participants for their comments, as well as Marius de Pijper for installing LOGLIN, Paul van Leest for his assistance in preparing the data set, Jan Hoem for suggestions on data analysis, and Jenny de Jong Gierveld, Pearl Dykstra, Theo van Tilburg and the two anonymous referees for their comments on an earlier version of this paper.

References

- Bernhardt, E. and B. Hoem, 1985, Cohabitation and social backgrounds: Trends observed for Swedish women born between 1936 and 1960, *European Journal of Population* 1, 375–395.
- Bethlehem, J.G. and Kersten, H.M.P., 1986, *Werken met non-respons* (Staatsuitgeverij, 's-Gravenhage).
- Bishop, Y.M.M., S.E. Fienberg and P.W. Holland, 1975, *Discrete multivariate analysis: Theory and practice* (The MIT Press, Cambridge, MA).
- Blossfeld, H.P. and J. Huinink, 1989, Die Verbesserung der Bildungs- und Berufschancen von Frauen und ihr Einfluss auf den Prozess der Familienbildung, *Zeitschrift für Bevölkerungswissenschaft* 15, 383–404.
- Carlson, E. and A. Klinger, 1987, Partners in life: Unmarried couples in Hungary, *European Journal of Population* 3, 85–99.
- Cherlin, A., 1980, Postponing marriage: The influence of young women's work expectations, *Journal of Marriage and the Family* 42, 355–365.
- Cole, C.L., 1977, Cohabitation in social context, in: R.W. Libby and R.N. Whitehurst, eds., *Marriage and alternatives: Exploring intimate relationships* (Foresman and Company, Glenview, IL) 62–79.
- DeMaris, A., 1984, Predicting premarital cohabitation: Employing individuals versus couples as the units of analysis, *Alternative Lifestyles* 6, 270–283.
- Dijkstra, W., ed., 1989, *Het proces van sociale integratie van jong-volwassenen. De gegevensverzameling voor de eerste hoofdmeting* (Vrije Universiteit Uitgeverij, Amsterdam).
- Fienberg, S.E., 1980. *The analysis of cross-classified categorical data*, 2nd ed. (The MIT Press, Cambridge, MA).
- Francoeur, R.T., 1983, Religious reactions to alternative lifestyles, in: Eleanor D. Macklin and Roger H. Rubin, eds., *Contemporary families and alternative lifestyles: Handbook on research and theory* (Sage, Beverly Hills, CA) 379–399.
- Gecas, V., 1979, The influence of social class on socialization, in: W.R. Burr, R. Hill, F.I. Nye and I.L. Reiss, eds., *Contemporary theories about the family. Vol. 1: Research-based theories* (Free Press, New York) 365–404.

- Goldscheider, F.K. and L.J. Waite, 1986, Sex differences in the entry into adulthood, *American Journal of Sociology* 92, 91–109.
- Goldscheider, F.K. and L.J. Waite, 1987, Nest-leaving patterns and the transition to marriage for young men and women, *Journal of Marriage and the Family* 49, 507–516.
- Gomez de Leon, J. and J.E. Potter, 1989, Modelling the inverse association between breastfeeding and contraceptive use, *Population Studies* 43, 69–93.
- Hachen, D.S. Jr., 1988, The competing risks model. A method for analyzing processes with multiple types of events, *Sociological Methods & Research* 17, 21–54.
- Hoem, J.M., 1985, Weighting, misclassification, and other issues in the analysis of survey samples of life histories, in: J.J. Heckman and B. Singer eds., *Longitudinal analysis of labor market data* (Cambridge University Press, Cambridge) 249–293.
- Hoem, J.M., 1986, The impact of education on modern family-union initiation, *European Journal of Population* 2, 113–133.
- Hoem, J.M. and B. Rennermalm, 1985, Modern family initiation in Sweden: Experience of women born between 1936 and 1960, *European Journal of Population* 1, 81–112.
- Kohn, M., 1969, *Class and conformity. A study in values* (Dorsey Press, Homewood, IL).
- Khoo, S.E., 1987, Living together as married: A profile of de facto couples in Australia, *Journal of Marriage and the Family* 49, 185–191.
- Kiernan, K.E. and S.M. Eldridge, 1987, Age at marriage: Inter and intra cohort variation, *British Journal of Sociology* 38, 44–65.
- Laird, N. and D. Oliver, 1981, Covariance analysis of censored survival data using log-linear analysis techniques, *Journal of the American Statistical Association* 76, 231–240.
- Larson, M.G., 1984, Covariate analysis of competing-risks data with log-linear models. *Biometrics* 40, 459–469.
- Latten, J.J., 1984, Marriage and cohabitation among young people, in: H.G. Moors, ed., *Population and family in the Low Countries IV (NIDI/CBGS, Voorburg/Brussel)* 1–22.
- Leridon, H., 1990, Cohabitation, marriage, separation: An analysis of life histories of French cohorts from 1968 to 1985, *Population Studies* 44, 127–144.
- Leridon, H. and C. Villeneuve-Gokalp, 1989, The new couples: Number, characteristics and attitudes, *Population*, 44 (English selection no. 1), 203–235.
- Liefbroer, A.C., 1989, Samenwonen of trouwen? Verschillen tussen de plannen van jong-volwassenen en de aan hun ouders toegeschreven opvattingen, *Bevolking en Gezin*, 83–108.
- Liefbroer, A.C., 1991, *Kiezen tussen ongehuwd samenwonen en trouwen. Een onderzoek naar plannen en gedrag van jong-volwassenen omtrent relatievorming* (Centrale Huisdrukkerij Vrije Universiteit, Amsterdam).
- MacDonald, M.M. and R.R. Rindfuss, 1981, Earnings, relative income, and family formation, *Demography* 18, 123–136.
- Meyer, S. and E. Schulze, 1988, Nichteeliche Lebensgemeinschaften: Eine Möglichkeit zur Veränderung des Geschlechterverhältnisses?, *Kölner Zeitschrift für Soziologie und Sozialpsychologie* 40, 337–356.
- Newcomb, M.D. and P.M. Bentler, 1980, Cohabitation before marriage: A comparison of married couples who did and did not cohabit, *Alternative Lifestyles* 3, 65–85.
- Oliver, D.C., and R.K. Neff, 1976, *LOGLIN 1.0 User's guide* (Health Sciences Computer Facility, Harvard School of Public Health).
- Oppenheimer, V.K., 1988, A theory of marriage timing, *American Journal of Sociology* 94, 563–591.
- Rao, K.V., 1990, Marriage risks, cohabitation and premarital births in Canada, *European Journal of Population*, 6, 27–49.
- Thornton, A., 1988, Cohabitation and marriage in the 1980s, *Demography* 25, 497–508.
- Van Eupen, Th.A.G., 1985, Kerk en gezin in Nederland, in: G.A. Kooy, ed., *Gezinsgeschiedenis. Vier eeuwen gezin in Nederland* (Van Gorcum, Assen) 7–30.

Waite, L.J. and G.D. Spitze, 1981, Young women's transition to marriage, *Demography* 16, 681–694.

Willems, P. and C. Vanderhoeft, 1985, Samenwonen, huwen en scheiden, *Bevolking en Gezin*, 271–310.